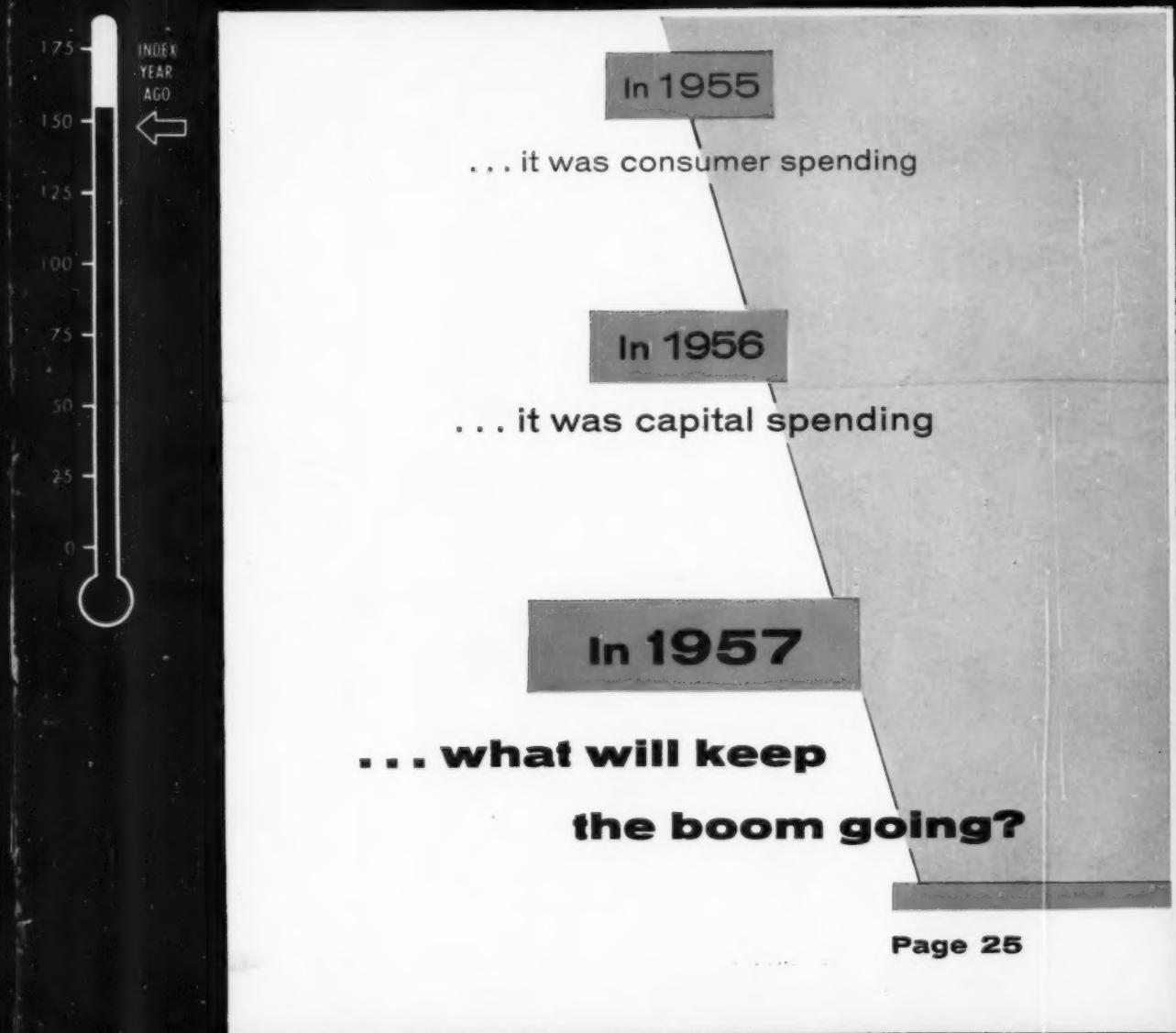


# BUSINESS WEEK



A McGRAW-HILL PUBLICATION

JAN. 5, 1957

Page 25

ANN ARBOR VICK  
313 N 1 ST - 2-C  
UNIVERSITY MICROFILMS  
E B POWER

MARATHON CORPORATION

"NATION'S LEADING PRODUCER OF PAPER PRODUCTS  
FOR FOOD PACKAGING AND HOUSEHOLD USE."



*"National* Accounting Machines save us \$20,000 a year...  
return 67% annually on our investment!"

—MARATHON CORPORATION, Menasha, Wisconsin

"Research is the key that keeps our Company ahead in the rapidly expanding pulp, paper, and paperboard industry.

"Because Marathon is 'many businesses in one,' our accounting requirements are complex. After a thorough research, we decided upon Nationals to meet our particular accounting needs.

"National Accounting Machines save us

\$20,000 a year, returning 67% annually on our investment.

"We use Nationals for control of Payroll, Accounts Payable, Distribution and General Ledger. Their versatility is amazing. We plan to adapt their facilities to produce even greater savings."

*Emmett W. Below*  
Controller, Marathon Corporation

In your business, too, National machines will pay for themselves with the money they save, then continue savings as annual profit. Your nearby National man will gladly show how much you can save—and why your operators will be happier.

THE NATIONAL CASH REGISTER COMPANY, DAYTON 9, OHIO  
989 OFFICES IN 94 COUNTRIES

*National*  
ACCOUNTING MACHINES  
ADDITION MACHINES • CASH REGISTERS

# IN BUSINESS THIS WEEK January 5, 1957

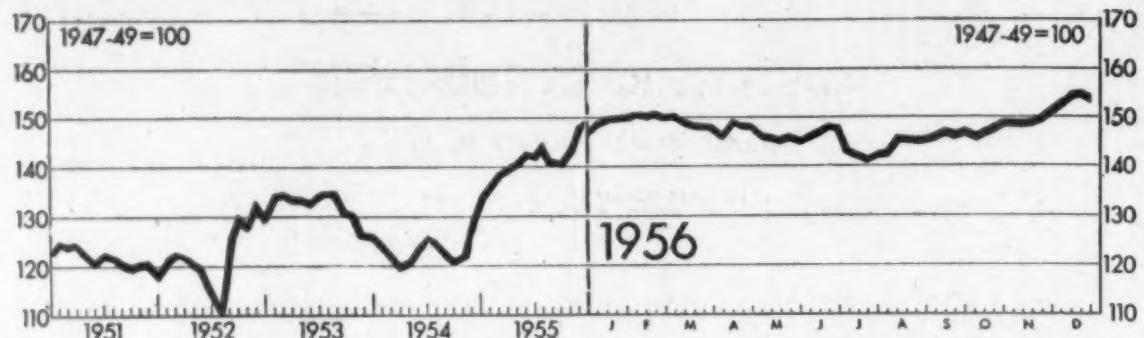
## GENERAL BUSINESS

	Page
BUSINESS OUTLOOK	19
WASHINGTON OUTLOOK	41
INTERNATIONAL OUTLOOK	87
PERSONAL BUSINESS	109
THE TREND	128
FIGURES OF THE WEEK	2
CHARTS OF THE WEEK	126
READERS REPORT	5
1957: CRITICAL YEAR FOR BOOM. By continuing for 18 years, it has set a record for longevity. But it may be vulnerable to new forces, and this may be the year that tells.....	25
NEW SCRUTINY FOR MONETARY CONTROLS? A committee of bankers and businessmen is telling Congress it's time for review.....	30
"KEEP OUT" SIGN IN MIDDLE EAST. Eisenhower's proposed new policy warns Russia to stay out.....	31
ECONOMISTS FIND PROSPERITY A BAFFLING THING. Annual convention tackles problems involved in keeping prosperity high.....	32
STEEL WITHOUT FAST WRITE-OFF. Expansion will go on. The industry will find the money somehow. But higher prices are now surer than ever.....	34
IN BUSINESS. News about spurt in retail sales, Jersey Standard's expansion, hushing the Park Avenue real estate dispute.....	38

## THE DEPARTMENTS

BUSINESS ABROAD:	Indian Businessmen Facing New Tests. A 32-year-old industrialist goes ahead with a business empire despite pressure for government ownership.....	93
	Americans Get Idea; South Italy Gets Plant. Ohio aluminum fabricator starts affiliate near Naples, with boost from Italian government.....	94
	In Business Abroad. News about Japanese textile quotas, Chilean labor peace with Anaconda, Russia's slowness to deliver India's steel mill, new company president..	97
FINANCE:	Hunting a Higher Net Return. Life insurance trade, growing swiftly, seeks more lucrative investments to balance the tax bite.....	79
GOVERNMENT:	In Washington. News about atom projects, job vacancies, anti-pollution, soil conservation .....	91
LABOR:	From Hungary's Terror, Skilled Hands for U. S. The refugee flood is helping some U. S. employers find an answer to growing shortage of labor skills.....	46
MANAGEMENT:	In Business, Everyone's Looking Ahead. Long-range plans are the rage.....	113
	In Management. News about engineers, women in industry, Kroger's plan to develop managerial talent.....	121
MARKETING:	And '57 Promises Even Better. The year just finished was the biggest yet for appliance makers .....	122
THE MARKETS:	'56 Barely Holds a Plus. Only the 50-industrials index came out ahead of Jan. 1..	103
	Wall St. Talks.....	103
PRODUCTION:	Speeding Gravel From Hills to Lake Roadbed. World's fastest conveyor system does job at Southern Pacific's causeway project.....	68
	Helpful Jolt for a Plastic. Irradiation gives polyethylene plastic added value as an insulator, thanks to increased resistance to heat.....	73
	New Products .....	75
REGIONS:	Beginning to Attack Slums. How private capital is being encouraged to take on job of urban renewal.....	58
	Regional Incomes. Third rise in a row.....	67
RESEARCH:	Looking at What's Ahead in the World of Science. The AAAS meetings gave hints of what is coming, this year and soon afterward, in a lot of fields.....	98

# FIGURES OF THE WEEK



## BUSINESS WEEK INDEX (chart) . . . . .

1946	Year Ago	Month Ago	Week Ago	Latest Week
Average	91.6	147.7	152.2	†155.7
				*154.8

### PRODUCTION

Steel ingot (thous. of tons).....	1,281	2,403	2,493	12,322	2,509
Automobiles and trucks.....	62,880	122,118	196,571	†189,826	119,276
Engineering const. awards (Eng. News-Rec. 4-wk daily av. in thous.).....	\$17,083	\$58,066	\$64,904	\$72,283	\$72,303
Electric power (millions of kilowatt-hours).....	4,238	10,751	12,075	†12,227	11,196
Crude oil and condensate (daily av., thous. of bbls.).....	4,751	6,987	7,133	7,376	N.A.
Bituminous coal (daily av., thous. of tons).....	1,745	1,864	1,828	†1,782	1,837
Paperboard (tons) .....	167,269	211,615	252,372	280,141	N.A.

### TRADE

Carloadings: miscellaneous and l.c.l. (daily av., thous. of cars).....	82	71	73	70	68
Carloadings: all others (daily av., thous. of cars).....	53	46	55	49	49
Department store sales index (1947-49 = 100, not seasonally adjusted).....	90	231	†149	260	264
Business failures (Dun & Bradstreet, number).....	22	174	254	214	174

### PRICES

Spot commodities, daily index (Moody's, Dec. 31, 1931 = 100).....	311.9	406.0	438.3	440.7	441.6
Industrial raw materials, daily index (BLS, 1947-49 = 100).....	††73.2	102.0	101.6	99.8	99.8
Foodstuffs, daily index (BLS, 1947-49 = 100).....	††75.4	75.0	84.2	82.3	82.5
Print cloth (spot and nearby, yd.).....	17.5¢	20.7¢	19.0¢	18.8¢	18.8¢
Finished steel, index (BLS, 1947-49 = 100).....	††76.4	115.6	168.8	†169.3	169.8
Scrap steel composite (Iron Age, ton).....	\$20.27	\$53.33	\$65.17	\$63.50	\$63.50
Copper (electrolytic, delivered price, E & M, lb.).....	14.045¢	43.975¢	35.990¢	35.931¢	35.925¢
Wheat (No. 2, hard and dark hard winter, Kansas City, bu.).....	\$1.97	\$2.28	\$2.35	\$2.36	\$2.36
Cotton, daily price (middling, 1 in., 14 designated markets, lb.).....	**30.56¢	34.87¢	33.17¢	33.15¢	33.17¢
Wool tops (Boston, lb.).....	\$1.51	\$1.70	\$2.14	\$2.20	\$2.20

### FINANCE

90 stocks, price index (Standard & Poor's).....	135.7	358.9	361.6	367.5	368.9
Medium grade corporate bond yield (Baa issues, Moody's).....	3.05%	3.63%	4.32%	4.39%	4.44%
Prime commercial paper, 4 to 6 months, N. Y. City (prevailing rate).....	3/4-1%	3%	3% %	3% %	3% %

### BANKING (Millions of Dollars)

Demand deposits adjusted, reporting member banks.....	††45,820	58,882	56,632	†58,148	58,231
Total loans and investments, reporting member banks.....	††71,916	86,736	86,207	†87,704	87,917
Commercial and agricultural loans, reporting member banks.....	††9,299	26,673	30,407	†31,266	31,309
U. S. gov't guaranteed obligations held, reporting member banks.....	††49,879	30,122	26,141	†26,578	26,657
Total federal reserve credit outstanding.....	23,888	27,420	26,374	27,223	27,842

\* Preliminary, week ended December 29, 1956.  
† Revised.

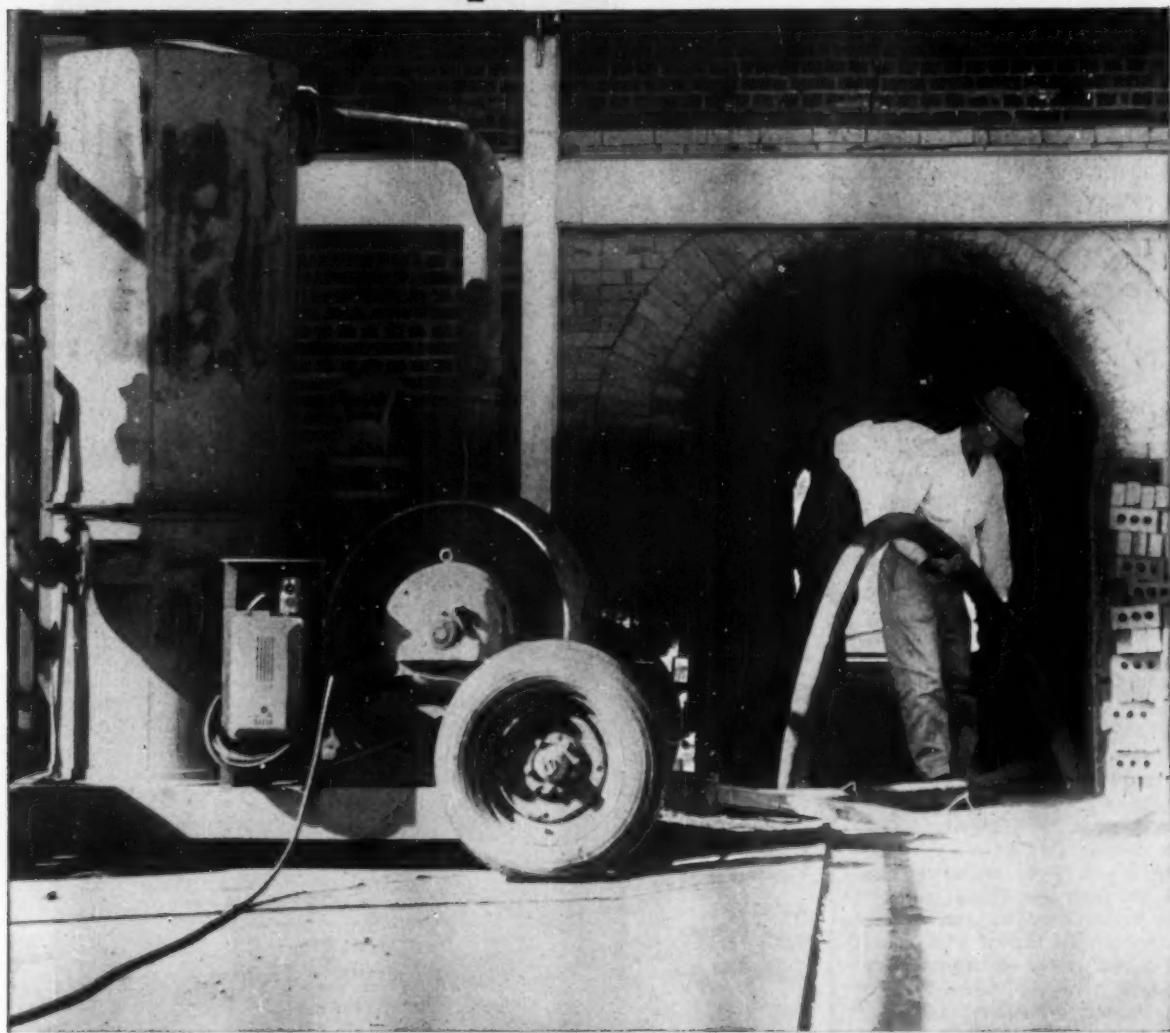
†† Estimate.  
\*\* Ten designated markets, middling 1/2 in.

N.A.—Not available at press time.

† Date for 'Latest Week' on each series on request.

THE PICTURES—Ashley & Crippin—97; Associated Photographers—29 (lf.); Grant Compton—28 (lf.), 46, 47, 48; General Electric Co.—73; Joern Gertts—68, 69, 70; Herb Kratovil—28 (rt.), 30, 98, 118; McGraw-Hill World News—93; Ettore Augusto Naldoni—95; Ed Nano—32, 33; New York Life Insurance Co.—99 (top), 60 (bot.); G. Pickaw—39 (rt.); Mike Shee—58, 59 (bot.); 60 (top); Sylvania Electric Products Inc.—75

# B.F.Goodrich report:



## Hose swallows pieces of hot brick

### *B. F. Goodrich improvement in rubber brought extra savings*

**Problem:** That man is using a king-size vacuum cleaner to clean out brick kilns. Powerful suction from the machine whisks up hot brick chips, sand and other sharp particles, just as a home vacuum sucks up dirt.

But for a while, this looked like one of those good ideas that just wouldn't work. A flexible rubber hose had to be used, and it couldn't stand the gaff. The sharp pieces of brick wore holes through one hose in *only 30 minutes*.

**What was done:** When a B. F. Goodrich man heard about the trouble, he suggested a new hose made by B. F. Goodrich. It is made with a special

lining of the roughest wear-resisting rubber known. It's so tough that, on many jobs, this rubber outlasts the hardest steel 10 to 1.

**Savings:** The B. F. Goodrich hose was tried. It has now given more than two years of service, and is still in excellent condition. No holes, no repairs, no problems of any kind.

**Extra benefits:** B. F. Goodrich has made hundreds of improvements in dozens of kinds of hose to make them last longer, cost less. Most improvements, while making the hose stand more abuse, have also made it more flexible and easier to handle.

**Where to buy:** Your B. F. Goodrich distributor has many more facts about this brick company's problem and the hose used to solve it. And as a factory-trained specialist in rubber products, he can answer your questions about all the rubber products B. F. Goodrich makes for industry. *B. F. Goodrich Industrial Products Company, Department M-826, Akron 18, Ohio.*

**B.F.Goodrich**  
**INDUSTRIAL PRODUCTS**

## **WANTED: two castaways**



*Photo by Hans Marx of Reportage*



If you're in the mood to be marooned, we've found a nifty spot. This desert island is for real—and the folks around San Juan, Puerto Rico will be happy to prove it to you.

This unusual picture-story in a recent issue of PARADE stopped more than half the readers. Which goes to prove there's nothing like a fresh, off-beat story to win friends—and readers. And PARADE has been doing just that so consistently that it's now the best read magazine in print.

This gives advertisers twice as many readers for their dollar as any of the three biggest weekday magazines.

You can't beat it: to open new markets, to establish brand names, to build sales all week long . . . PARADE has what it takes!

PARADE...THE SUNDAY MAGAZINE SECTION OF 55 FINE NEWSPAPERS COVERING  
SOME 2600 MARKETS...WITH MORE THAN 15 MILLION READERS EVERY WEEK

# B U S I N E S S W E E K

EDITOR & PUBLISHER Elliott V. Bell  
MANAGING EDITOR Kenneth Kramer

ASSISTANT MANAGING EDITOR Robert B. Colborn  
ASSOCIATE MANAGING EDITORS John L. Cobbs, Peter French, Eugene Miller  
SENIOR EDITORS  
Clark R. Pace, Merlin S. Pitzele, Howard Whidden

## DEPARTMENTS

Business Outlook: Clark R. Pace, *Editor*  
Economics: Leonard Silk, *Editor*  
Finance: William McKee Gillingham, *Editor*; David B. Carlson, Jr.  
Foreign: Howard Whidden, *Editor*; Sol Sanders, Paul Finney  
Industrial Production: Theodore B. Merrill, Jr., *Editor*  
Labor: Merlin S. Pitzele, *Editor*; Edward T. Townsend, Robert R. Reichenbach  
Management: Lee Geist, *Editor*; Edward McCreary, Albert C. Lasher  
Marketing: Richard L. Waddell, *Editor*; Cora Carter, Jack E. Patterson  
Money & Credit: M. J. Rossant, *Editor*  
Personal Business: Barbara Dana  
Regions: Werner Renberg, *Editor*  
Research: Jane H. Cutaia, *Editor*  
Statistics: Elsa Denno

Staff Writers: John H. Maughan, Brenton Welling, Jr.

Illustration: Richard A. Wolters, *Editor*; Robert Iscar, *Pictures*; Louis H. Dufault, *Graphics*; Grant Compton, Jack H. Fuller, Herbert F. Kratovil, Jomary Mosley, Elizabeth Pollock, Arthur Richter, Joan Sydlow

Library: Dorothy Roantree, *Librarian*; Jane G. Racza

## NEWS EDITORS

T. B. Crane (*Senior News Editor*), Jeanne A. Bernhardt, Robert F. Deed, Lawrence H. Odell, Doris I. White

## EDITORIAL ASSISTANTS

Mary T. Beckerle, Edward J. Burgess, Jr., Jean Drummond, Marilyn Holmes, Kathleen Kundel, Irwin Lainoff, Olive L'Heureux, Ann Woods

## McGRAW-HILL ECONOMICS STAFF

Dexter M. Keezer, *Director*; Theodore C. Boyden, William H. Chartener, Douglas Greenwald, Robert P. Ulin

## U.S. & CANADIAN NEWS SERVICE

Atlanta Bureau: Frances Ridgway  
Boston Bureau: Norman Kotker, *Manager*  
Chicago Bureau: Merlin H. Mickel, *Manager*; Joanne Sponsler  
Cleveland Bureau: Robert E. Cochran, *Manager*  
Detroit Bureau: William Kroger, *Manager*; Keith G. Felcyn  
Houston Bureau: Normand DuBeau, *Manager*; George W. New  
Los Angeles Bureau: Thomas M. Self, *Manager*; James P. Roscow, Margaret W. Hayes  
Milwaukee Bureau: Charles M. Garvey, *Manager*; Kathleen C. Horan  
Philadelphia Bureau: W. B. Whichard, Jr., *Manager*; Esther A. Schultz  
Pittsburgh Bureau: Richard N. Larkin, *Manager*; John K. Fockler, Elinore S. Thomas  
San Francisco Bureau: Richard Lamb, *Manager*; Margaret J. Scandling  
Toronto Bureau: John D. Harbron, *Manager*; Jean Ross-Skinner  
Washington Bureau: George B. Bryant, Jr., *Manager*; Alan E. Adams, Glen Bayless, Roy Calvin, Ernest Conine, John C. L. Donaldson, Jay Flocken, Boyd France, Sam Justice, Arthur J. Kraft, Donald O. Loomis, Gladys Montgomery, Arthur L. Moore, Seth Payne, Morton A. Reichek, V. Craig Richter, Caroline Robertson, Vincent Smith  
Correspondents: Akron, Albany, Austin, Baltimore, Birmingham, Buffalo, Calgary, Charleston, Charlotte, Cincinnati, Columbus, Dallas, Denver, Des Moines, Fort Worth, Greensboro, Hartford, Jacksonville, Kansas City, Knoxville, Little Rock, Louisville, Memphis, Miami, Minneapolis, Montreal, Nashville, New Orleans, Omaha, Orono, Ottawa, Phoenix, Portland (Ore.), Providence, Richmond, Rochester, Salt Lake City, San Diego, Seattle, St. Louis, Syracuse, Toledo, Tulsa, Vancouver, Winnipeg, Worcester, Honolulu

## McGRAW-HILL WORLD NEWS SERVICE

Editor: John Wilhelm; Bonn: Gerald W. Schroder, Silke Brueckler; London: William J. Coughlin, John Tunstall, Edith Walford; Melbourne: Alicja Grobtsch; Mexico City: Jack Kearney; Paris: Robert E. Farrell, Helen Avati; Rio de Janeiro: Peter Weaver; Tokyo: Dan Kurzman

ASSOCIATE PUBLISHER Bayard E. Sawyer  
ADVERTISING MANAGER John M. Holden  
BUSINESS MANAGER Richard E. McGraw

BUSINESS WEEK • JANUARY 5, 1957 • NUMBER 1427



(with which are combined The Annalist and the Magazine of Business) Published weekly by McGraw-Hill Publishing Company, Inc. Executive, Editorial, Advertising, and Subscription Offices: McGraw-Hill Building, 330 West 42nd Street, New York 36, N. Y. Publication Office, 99-129 North Broadway, Albany 1, N. Y.; entered as second class matter Dec. 4, 1936 at the Post Office at Albany, N. Y., under act of Mar. 3, 1879. Donald C. McGraw, President; Joseph A. Gerard, Executive Vice President and Treasurer; John J. Cooke, Secretary; Nelson Bond, Executive Vice President, Publications Division; Ralph B. Smith, Vice President and Editorial Director; Joseph H. Allen, Vice President and Director of Advertising Sales; A. R. Venezian, Vice President and Circulation Coordinator. FOR SUBSCRIPTIONS, write to: Business Week, Subscription Service, 330 West 42nd Street, New York 36, N. Y. Subscriptions to Business Week are solicited only from management men in business and industry. Position and company connection must be indicated on subscription orders. Subscription rates: United States and possessions \$6 a year; \$12 for three years. Canada \$7 a year; \$14 for three years. Other Western Hemisphere countries and the Philippines, \$20 a year; \$40 for three years. All other countries \$25 a year; \$50 for three years. Single copies, 25c. Printed in U.S.A. ©Copyright 1957 by McGraw-Hill Publishing Co., Inc. All rights reserved.

## READERS REPORT

### Contrary to Practice

Dear Sir:

In reference to Reader Kirkwood's correction of the spelling of Scotch whisky [BW—Dec. 1'56, p5—Best Scotch Tradition] and at the risk of possibly carrying a little point too far, I'd like to inform you that contrary to industry practice, all bourbon brands of Brown-Forman Distiller's Corp . . . are traditionally—whisky.

ROBERT T. PEARSALL  
GREENWICH, CONN.

### Refugee Dilemma

Dear Sir:

As you suggested in Personal Business [BW—Dec. 15'56, p170] I got in touch with three of the five major relief organizations which you mentioned, to offer homes and jobs in this community for Hungarian refugees, only to be told that "we have not and do not expect to have anybody."

The first batch of jobs was offered by the local hospital, especially for refugees totally ignorant of the language, untrained and unskilled, but at the same pay as that paid to Americans doing the same work. For these people I was offered jobs as maids and porters, dietary and kitchen aids and so on, at about \$33 a week starting salary, plus uniforms and meals. Beyond the unskilled level there were several jobs as laboratory technicians paying about \$55 a week which, however, required some knowledge of English and some technical training. To supplement these admittedly low starting salaries I was able to offer free housing for all refugees within this community.

The International Rescue Committee's reaction to the offer was: "Yeah—we know all about these hospital jobs; all they want is cheap labor. Call me back when you can offer us something better."

The Church World Service, more polite, suggested that I write them a letter "in case we might get somebody for one or the other of these jobs" but told me explicitly not to continue to line up jobs and homes for their refugees because they neither had nor expected to have enough refugees to make use of my offer of homes and jobs.

The Resettlement Div. of the Catholic Relief Services explained that they were trying to send the



For today's problem

HAVE

Glass-

(Left) Comparative test by acid. (Below)  
Physical inspection of glass-lined tanks.

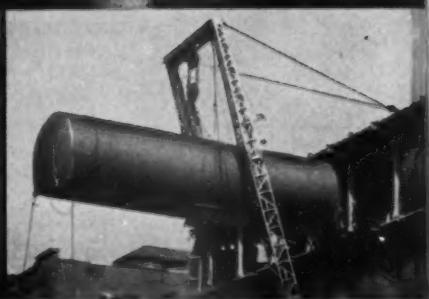


*Here's Proof*

of performance by the world's  
largest manufacturer of glass-  
protected steel products...for  
home, farm and industry



PERMAGLAS water heaters . . . set  
new standards of life expectancy  
in tank linings.



PERMAGLAS beer storage tanks  
... guard product flavor, purity  
and uniformity.

# products, and tomorrow's product problems

YOU CONSIDERED

# protected steel?

Glass coating may be the answer to improving your product's chemical and physical properties — whether that product is the size of a 2-penny nail or a 25,000 gallon storage tank!

## Here are the properties

### Chemical

In order to create the custom-glasses that today protect steel against various kinds of chemical action — A. O. Smith developed and tested more than 3000 glass formulations.

A. O. Smith can protect steel with glass . . . to withstand all inorganic acids except hydrofluoric — with corrosion-resistance actually improving as acid concentration is increased. No organic acid has yet been found that will break down A. O. Smith's specially developed glass formulations. And even though the silica element of glass is soluble in alkali—A. O. Smith can produce glass coatings to stand off alkali conditions up to pH of 12 at boiling temperature.

The highly corrosive characteristics of water fail to faze A. O. Smith glass coatings . . . proved in actual service by more than 3,000,000 home water heaters.

### NOW AVAILABLE FOR YOU...

the research and production facilities of A. O. Smith. Write for full information on a specific problem, or ask for free booklet, "THE STORY OF GLASS-PROTECTED STEEL."



### Physical

A. O. Smith glass coatings provide a fusion bond that is both chemical and mechanical — to 10,000 psi. The glass cannot be separated from the steel until the yield point of the metal has been exceeded. Also, special coating techniques promote high dielectric strength . . . outstanding non-stick and anti-abrasive qualities.

Up to now 500° F. is peak operating temperature for chemical-resistant glasses, but A. O. Smith has successfully developed ceramic formulations for protecting base metals at far higher temperatures. For other types of service, ceramic coatings can protect carbon steels at up to 1250° F. . . . stainless steels at up to 1500° F.

Through research  . . . a better way

**A.O.Smith**  
CORPORATION

MILWAUKEE 1, WISCONSIN

12 plants in New Jersey, Pennsylvania, Ohio, Illinois, Wisconsin, Texas and California

International Division: Milwaukee 1, Wisconsin



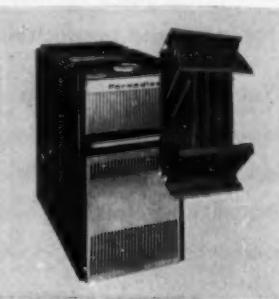
HARVESTORES for farm feed processing . . . Permaglas mechanized storage structures, handling industrial bulk materials, turn losses to profits.



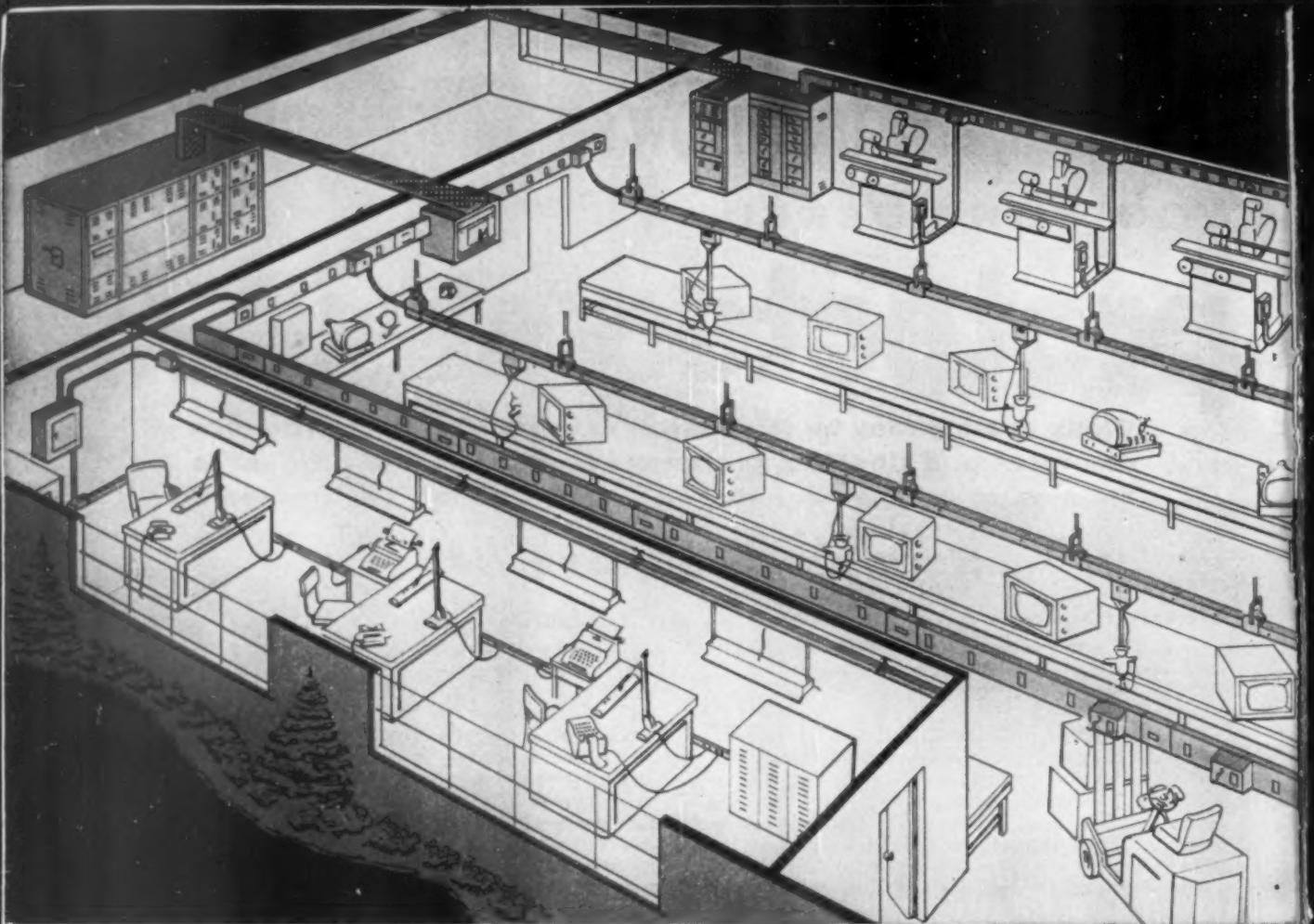
PERMAGLAS smokestacks . . . answer industry's need for longer smokestack life . . . economically.



GLASCOTE (subsidiary) products for severest chemical processing service . . . defeat corrosion and contamination.



PERMAGLAS home heating and cooling . . . ceramic-coated heat exchangers prevent oxidation and condensate corrosion.



## He'll keep you ahead electrically . . .

New methods, new machines, automation! These are areas you'll certainly investigate if you're out for increased production.

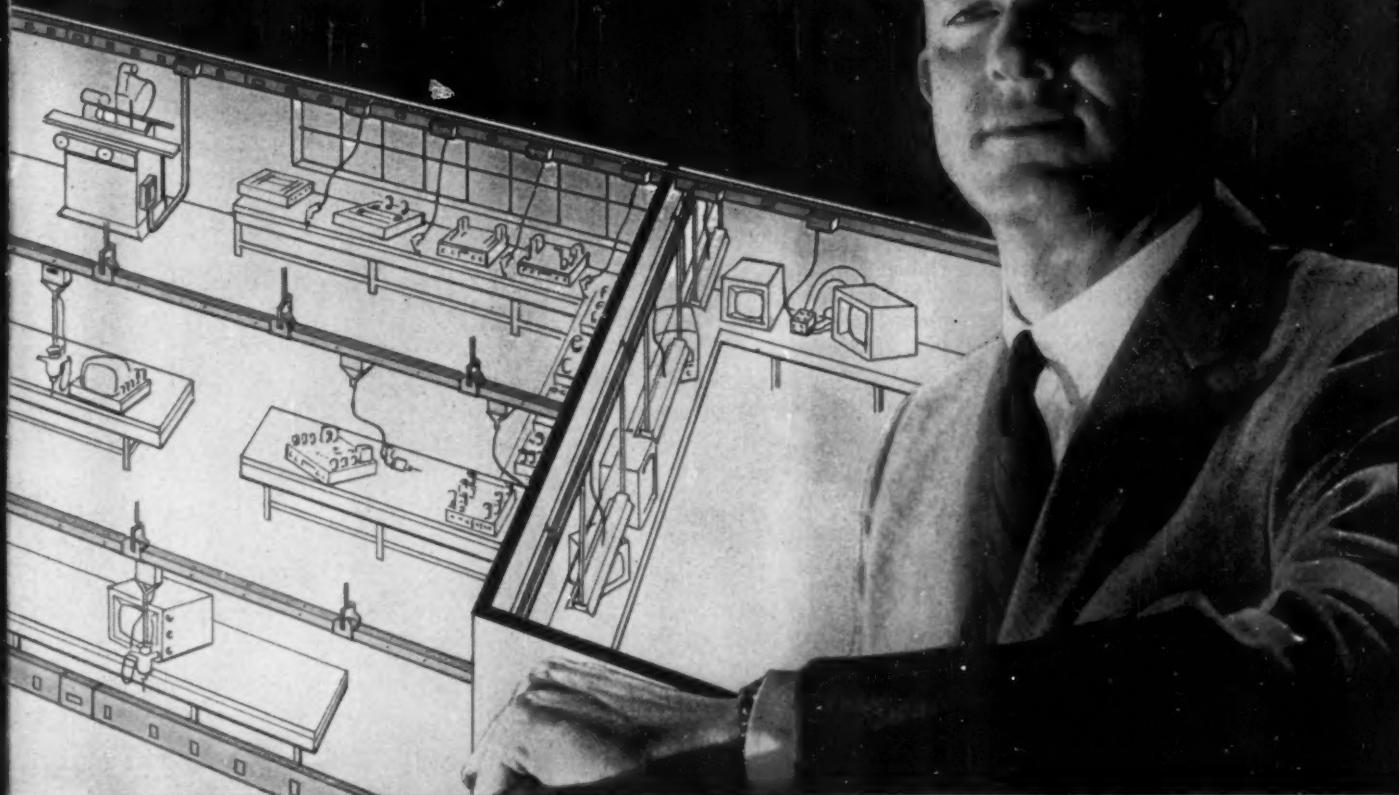
Yet it's equally important to look at your electrical distribution system. For only one plant in ten is adequate electrically\*—able to roll along with a minimum of electrical maintenance, current outage and other electrical downtime.

How about your plant? Are electrical stymies hampering production while competition forges

ahead? If your answer is "yes", call in a BullDog field engineer. He'll inspect your electrical facilities, analyze both present and future needs . . . then demonstrate how a BullDog-engineered distribution system can fill them most economically and best.

You'll find he's a man with considerable electrical savvy and on-the-job know-how—a specialist who has the distinct advantage of working with the most flexible and dependable electrical distribution equipment ever designed.

\*Factory Management & Maintenance study of 42 leading Toledo manufacturing plants.



## so you'll stay ahead competitively!

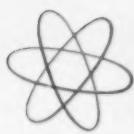
More, he can draw on the combined talents and products of the country's most outstanding electrical company—I-T-E Circuit Breaker Co., R. & I. E., Chase-Shawmut, Kelman, Victor Insulator and Bull-Dog. Thus, he's able to coordinate everything electrical in your plant . . . provide a complete system that's designed to go together, handle your needs more efficiently for years to come. © BEPCO



IF IT'S NEW... IF IT'S DIFFERENT... IF IT'S BETTER... IT'S

**BULLDOG**  
ELECTRIC PRODUCTS COMPANY

BullDog Electric Products Co., Detroit 32, Mich. • A Division of I-T-E Circuit Breaker Co. • Export Division: 13 East 40th St., New York 16, N.Y. • In Canada: BullDog Electric Products Co. (Canada), Ltd., 80 Clayton Rd., Toronto 15, Ont.



## Electrons spark a faster pace on Great Northern Railway

When Great Northern wants to locate a boxcar, or get the answer to a complex commodity movement, we soon will be able to ask our new Univac, the wondrous electronic brain that whips out so many answers so fast.

It will write our paychecks, too. First Univac in Western railroading, this giant computer will help our people get your shipping jobs done better and faster.

The St. Paul-Minneapolis area, served by Great Northern, is an important electronic center, largely because of high quality labor. For data on industrial opportunities write *E. N. Duncan, Director, Industrial and Agricultural Development, Great Northern Railway, St. Paul 1, Minnesota.*



**Train radio** is a commonplace on Great Northern today. A radio network for passenger and freight train operations now exists along our line from St. Paul to Seattle. This modern system of communications adds to the safety of passengers, train crews and shipments.

Let us show you how we can expedite the movement of your goods. Write *W. E. Nicholson, General Freight Traffic Mgr., Great Northern Railway, St. Paul 1, Minn.*

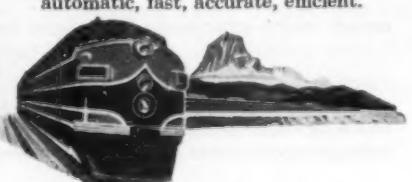


**Electrons help us** weigh iron ore—checking each precious gondola-load as it comes from the Mesabi Range in northern Minnesota to our docks at Allouez, Wisconsin. It's all automatic, fast, accurate, efficient.

Luxury by Push-button on the incomparable

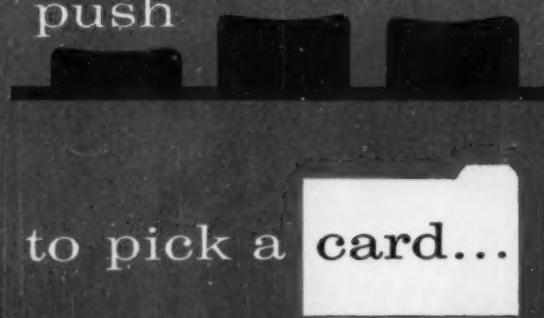
### EMPIRE BUILDER

A card table? Yes, sir! Your breakfast? Yes, sir! Your favorite beverage? Yes, sir! All this and more—just by pushing a button on Great Northern's incomparable EMPIRE BUILDER. No finer way to go between Chicago and the Pacific Northwest. For information, write *P. G. Holmes, Passenger Traffic Mgr., Great Northern Railway, St. Paul 1, Minn.*



Offices in principal cities of U.S. and Canada

push a button...



to pick a card...

from any of these space savers



Robot KARDEX®  
(over 4,000 sets  
of visible records)



CONVE-FILER  
(up to 200,000  
cards)



ROTO-KARD  
(up to 6,000  
record cards)



KARD-VEYER  
(up to 80,000  
cards)

# PUSH BUTTON FILING

*by Remington Rand*

DIVISION OF SPERRY RAND CORPORATION

Four of the thousands of REMINGTON RAND products and services for the filing, finding, storing, housing, condensing, protecting, controlling or copying of records. For complete details on the products illustrated, write for FREE booklets (Robot KARDEX KD505, CONVE-FILER LBV160, ROTO-KARD KD770, KARD-VEYER LBV706) to Room 1104, 315 Fourth Avenue, New York 10, N. Y.

**A MAINTENANCE "SUPER" REPORTS  
ON TUBELESS TRUCK TIRES—**

William A. Wild, Branch Motor Express Superintendent of Maintenance, has been in the trucking business "more years than he likes to recall" but he's always willing to learn a better way to help him keep his fleet on the road and making money.



**Q. Your fleet has been using tubeless tires since October 1955, Mr. Wild—what is your opinion of them?**

**A. "WE'RE SOLD ON FIRESTONE TUBELESS TRUCK TIRES—BEEN GETTING THEM ON ALL OUR NEW EQUIPMENT"**

*says William A. Wild, Superintendent of Maintenance, Branch Motor Express.*

Branch Motor Express of Allentown, Pennsylvania, is in the process of switching its entire fleet over to tubeless truck tires. A large common carrier serving the Middle Atlantic States, this company operates tractor-trailer units both on intercity runs and in-city pickup and delivery. For a first-hand account of why Branch Motor Express prefers tubeless tires, here's an interview with Mr. William A. Wild, the man who keeps this fleet rolling:

**Q. What kind of mileage are you getting with tubeless tires compared to tires with tubes?**

**A. "We're definitely getting more miles from Firestone tubeless tires. Although we've been running on tubeless tires since October of 1955, we can't figure cost per mile yet because, you see, not one of these tires has been retired from service. However, we average 50,000 miles before retreading on the tractor drive axle tires and 100,000 miles on trailer tires and tractor front axle tires before they are retreaded. This is a remarkable improvement over tires with tubes, especially for city driving."**

**Q. Is city delivery tougher on tires?**

**A.** "It is for us because that's where constant spotting of the trailer scuffs tires—but worst of all, that's where tires get curb breaks and pick up puncturing objects. The big advantage of tubeless tires here is that a break or puncture shows up as a slow leak and we repair it—but in tires with tubes, a break has to flex a hole in the tube and then—wham!—we've blown out a tire and lost a valuable tire body. We get increased tire body life for more retreads with tubeless tires. That's important to our cost picture because Firestone Factory-Method Retreading puts "new tire" tread performance on the old carcass and we get almost again as much mileage as the original—at about one-third the price of the original tire. And we can retread these tires over and over again."

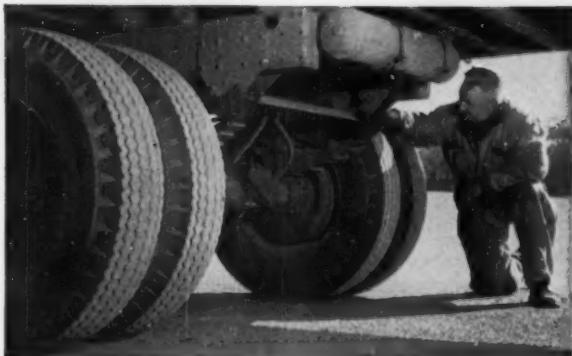
**Q. In big fleet operation, does the introduction of tubeless tires present any problems?**

**A.** "Not for us. We've standardized our rims and we can run tubed and tubeless side by side until we have completed all the replacements. We'll have all our equipment on tubeless before long. We have less valve trouble on tubeless because they run cooler out on the side of the rim. And if they do need service they're easy to get at."

**Q. From your experience, then, you'd recommend tubeless tires to other truckers?**

**A.** "Yes, I would. Anyone can save money on tire costs with them. And the way I figure it, tires with tubes on any equipment bought today may be difficult and expensive to replace, long before the vehicle has completed its useful service life."

"36,000 miles on these tractor drive axle tires, and there's another 15 or 20,000 miles left on those treads yet"—that's "Pete" Winings, Reading Terminal Shop Foreman, whose words of praise for Firestone tubeless tires sound sweet as honey to the ears of Bill Hamlin, who represents Firestone in Allentown.



"Can't remember when we had the last road call to change a flat—since we've been running on tubeless tires we hardly ever have an emergency run," recalls "Pete" Winings and he should know—he's the guy who used to have those "headaches."



SUPER ALL TRACTION



ALL TRACTION



Copyright 1956, The Firestone Tire & Rubber Co.

**Firestone**

FIRST CHOICE WITH  
TRUCK OPERATORS EVERYWHERE



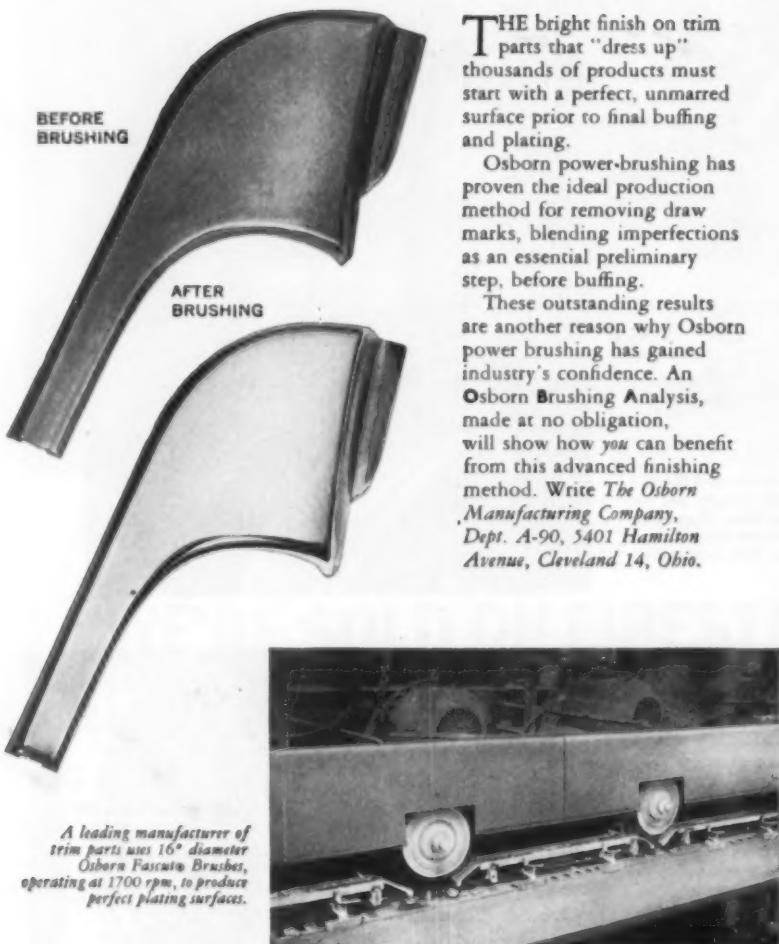
SUPER TRANSPORT



TRANSPORT HEAVY DUTY

Enjoy the Voice of Firestone on radio and television every Monday evening over ABC

## Start of a flawless finish



THE bright finish on trim parts that "dress up" thousands of products must start with a perfect, unmarred surface prior to final buffing and plating.

Osborn power-brushing has proven the ideal production method for removing draw marks, blending imperfections as an essential preliminary step, before buffing.

These outstanding results are another reason why Osborn power brushing has gained industry's confidence. An **Osborn Brushing Analysis**, made at no obligation, will show how you can benefit from this advanced finishing method. Write **The Osborn Manufacturing Company, Dept. A-90, 5401 Hamilton Avenue, Cleveland 14, Ohio.**

Hungarians further West and were not too anxious to have them take jobs and settle in this area. Alone among the organizations, the Catholic Service, however, asked me to give them my name and telephone number "so we can let you know in case somebody turns up who can make use of your offer."

Your article gave the impression that there is a crying need for homes and jobs for Hungarian refugees . . . what is going on?

DORIS DRUCKER

MONTCLAIR, N. J.

### Format Duel

Dear Sir:

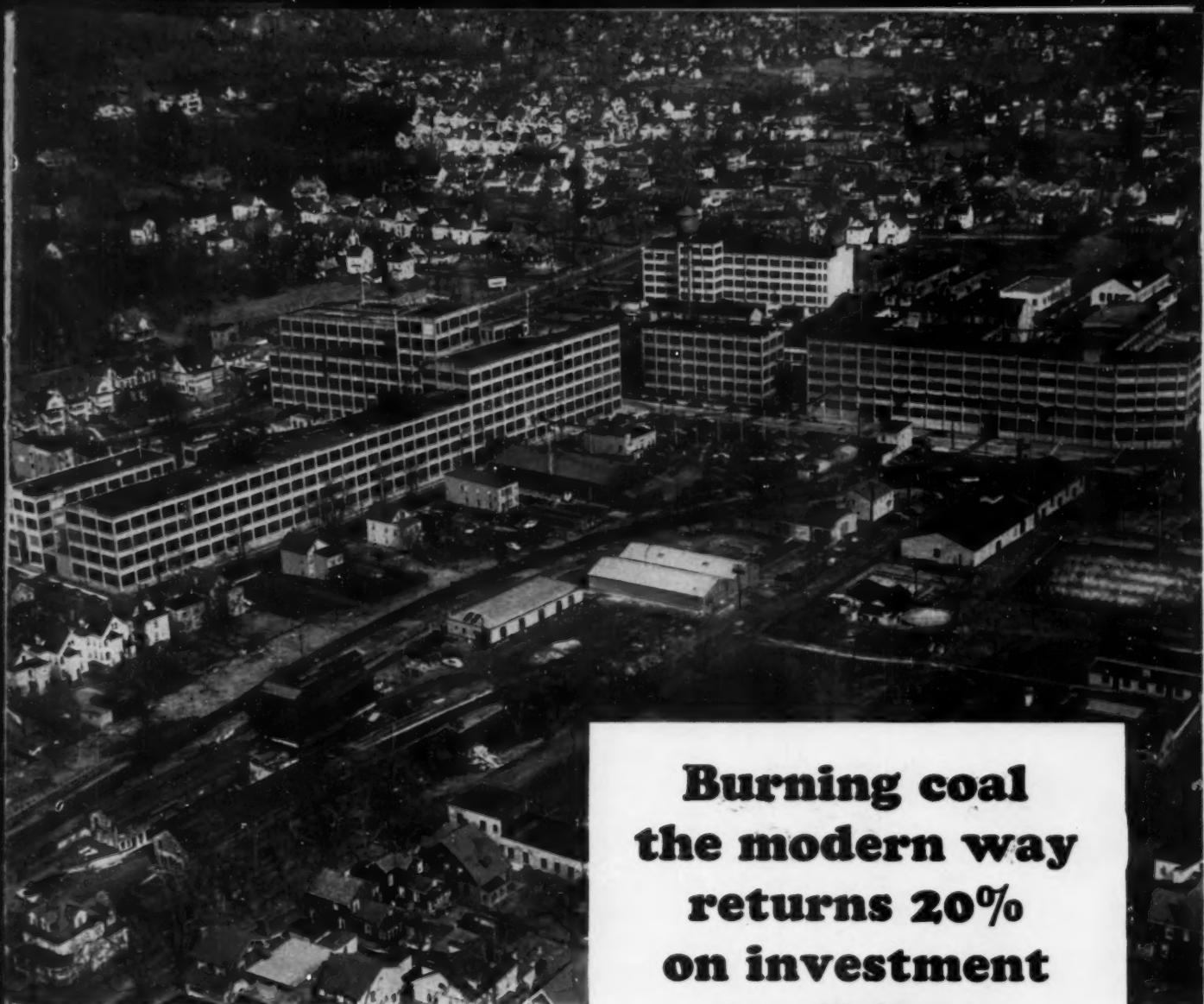
I found your recent article *Reading Nation's Economic Health* [BW — Dec. 8 '56, p141] most interesting and think it should serve a useful purpose in enlightening the upper-crust business audience to which your magazine goes. However, your statement about "dual reports" (page 142) is by no means in accord with the facts.

You say, "When the reports were inaugurated by Pres. Harry S. Truman, they were published in two parts . . . The dual format was devised by Edwin G. Nourse, the council's first chairman. Nourse's goal was to surround the council with an aura of pure economics and dedicated scholarship." . . . The first three reports were all in the integrated form which I devised and still believe is the appropriate format. I accepted the dual form only under the strongest pressure from the President and then sought to see to it that the Council's "Review" should be strictly factual, with no hint of policy positions by the Council. After I left the chairmanship, the Council's report took on a more and more personal tone and included explicit policy recommendations.

Arthur F. Burns' position has seemed to me to be ambiguous. He has removed Council signatures and insists that the whole document is the *President's report* but the public naturally regards all that follows after the President's signature as the views of the Council or at least its chairman. In the National Planning Assn.'s symposium "The Employment Act, Past and Future," I have referred to this situation as "blurring the distinction between the scholar's service of scientific analysis and the no less essential and proper task of practical synthesis of political expediencies. . . ."

EDWIN G. NOURSE

WASHINGTON, D. C.



## Burning coal the modern way returns 20% on investment for Edison

### Consult an engineering firm

Designing and building hundreds of heating and power installations a year, qualified engineering firms can bring you the latest knowledge of fuel costs and equipment. If you are planning the construction of new heating or power facilities—or the remodeling of an existing installation—one of these concerns will work closely with your own engineering department to effect substantial savings not only in efficiency but in fuel economy over the years.

### *facts you should know about coal*

In most industrial areas, bituminous coal is the lowest-cost fuel available • Up-to-date coal burning equipment can give you 10% to 40% more steam per dollar • Automatic coal and ash handling systems can cut your labor cost to a minimum. Coal is the safest fuel to store and use • No smoke or dust problems when coal is burned with modern equipment • Between America's vast coal reserves and mechanized coal production methods, you can count on coal being plentiful and its price remaining stable.

The firm of Thomas A. Edison, Inc., West Orange, N. J., was faced with a common problem—rising steam plant costs. A thorough survey indicated the need for modernization of the power system. As a result, six 30-year old boilers were replaced with two 60,000 lb./hr. units. FD and ID fans, pneumatic ash systems, coal pulverizers and related equipment were installed.

Modernization has paid off at Edison! Steam-generating capacity per sq. ft. of boiler room space has been doubled, labor costs have been cut, fuel costs are down, boiler efficiency is up 16% and modernization gives a 20% annual return on a net investment of 2.7 mils per BTU!

*For further information or additional case histories showing how other plants have saved money burning coal, write to the address below.*

**BITUMINOUS COAL INSTITUTE**  
Southern Building • Washington 5, D. C.

## Checklist for buyers of business planes

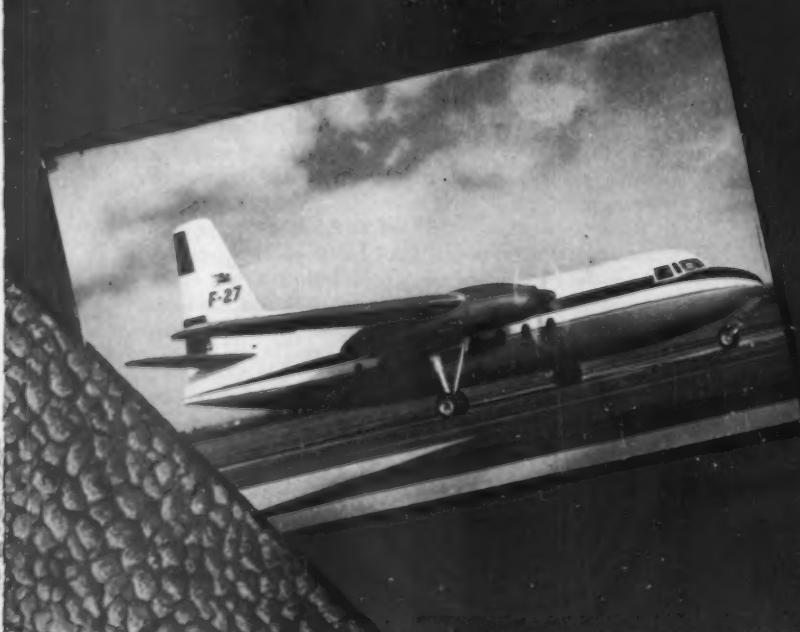
New executive transports, new features, new performance; put them together, and they call for an entirely new set of standards before you decide.

1. Is the aircraft propjet-powered—for performance, freedom from vibration?
2. Is the cabin pressurized and airconditioned—for comfort, for personal safety?
3. Is the cruising speed on a par with contemporary airliners?
4. Can it fly more than 2,000 miles without refueling?
5. Can it land and take off on small town airfields, with single runways less than 4,000 ft. in length?
6. Can it double as a high-priority cargo carrier, with a capacity of more than two tons?
7. Can it climb to 19,000 feet on *one* engine?
8. Does it have room for conferences and work-enroute?

YES	NO
<input type="checkbox"/>	<input type="checkbox"/>

If the airplane you are currently considering rates even one "No" on this list, you may be settling for the second-best; if you've checked off all the "Yes" boxes, you have the Fairchild F-27 in mind—there is no other plane like it.

*Address inquiries to:* R. James Pfeiffer, Executive Director of Customer Relations, Fairchild Engine and Airplane Corporation, Hagerstown 15, Md.



FAIRCHILD  
**F-27** *Friendship*

THE FAIRCHILD AVIATION CORPORATION AND MILITARY



## How to ship all over, all at once

Suppose you want to send shipments  
to every part of the country *all at the same time!*  
Tough job? Not for Railway Express! You can ship  
to some 23,000 communities swiftly and dependably.  
That's coverage no other company comes close to matching.  
What's more, Railway Express serves 106 countries abroad,  
making international shipping easy, too. So,  
whether you're sending or receiving, by rail or by air,  
whether your shipment is big or small—  
always call Railway Express. For speed, economy  
and safe, sure deliveries, you'll find

## The big difference is



...safe, swift, sure

Railway Express International Service now includes affiliations with: SEABOARD & WESTERN (and connecting carriers), TACA, TAN, BRAZILIAN INTERNATIONAL AIRLINES also SCHENKER & CO., the NIPPON EXPRESS CO., MORY & CIE., A. FREYMAN & VAN LOO, AB OLSON & WRIGHT, FERNANDO & ROQUE, ANGLO OVERSEAS TRANSPORT CO. and the AMERICAN EXPRESS CO. foreign connections.

You wanted to call Texaco about  
their one sales agreement,  
remember?



**ONE BRAND—  
ONE SALES AGREEMENT  
NATIONWIDE,  
cuts lube costs**

Here are three practical advantages to buying all your industrial lubricants under a single Texaco Sales Agreement, no matter where your plants are located:

The economy of quantity buying is one . . . simplification of inventory is another. And using one brand—one quality nationwide is another; for it makes control much simpler and uniform performance more certain.

In addition, Texaco's exclusive nationwide service, backed by more than 2,000 distributing plants, assures prompt, accurate engineering help and delivery in all 48

States. You get advice on lubrication problems in every type operation; metal working, construction, mining, transportation, whatever your field—the kind of practical help that consistently brings production up and costs down.

For full information on Texaco's unique one agreement plan covering all 48 States, call the Texaco Distributing Plant nearest you or write:

The Texas Company, 135 East 42nd Street, New York 17, N. Y.

**TEXACO**  
INDUSTRIAL LUBRICANTS



TUNE IN . . . METROPOLITAN OPERA RADIO BROADCASTS EVERY SATURDAY AFTERNOON

# BUSINESS OUTLOOK

BUSINESS WEEK  
JAN. 5, 1957



## Construction in this country seems to be bumping the ceiling.

Obviously, the main pinch is in structural steel. Yet it would seem, over-all, that we're up against a simple case of too many wanting to do too much all at the same time.

Here are the pertinent facts on the **construction squeeze**:

- Though 1956 topped \$44-billion for a new record, the rise of a little over \$1-billion was the **smallest gain of any recent year**. Moreover, it fell considerably short of matching the **rise in construction costs**.
- And there's **no gain in physical volume** in sight for 1957, either. For, though the government experts predict a **\$1½-billion boost in expenditures**, this almost surely will fail to equal the cost increase.

Some types of construction did, of course, score good gains in physical as well as dollar volume last year.

Factory building, for example, soared above \$3-billion. This was a gain of more than \$600-million or 25%. And the utility industry (notably in electricity and gas) ran ahead by more than 10%.

But, without dear money **pinching housing back**, these gains surely would have caused disastrous price pressures.

Some construction projects may be able to wait. But, where needs are sorest, you just go ahead and ignore the price.

This stands out in the case of **schools**. Space must be had. And prices have skyrocketed—far beyond the construction cost average.

In the case of construction (as with many other things), it's not just the original cost—it's the upkeep.

Because, in addition to the rising prices on structures, there's the carrying charge on borrowed money at higher interest rates.

**Construction paid for with public funds is bound to feel the credit squeeze increasingly.** Interest costs may not cramp the federal government, but they do state and local administrations.

This is significant, for public construction is ticketed for gains in excess of **\$1½-billion** in 1957 (more than double the rise that is expected to take place in the private side of the economy).

We are likely to see cases where **local spending will only go into the most pressing projects—schools and sewers**, for example.

That could scale down the scheduled **\$15-billion outlay**.

Schools, highways, water projects, and sewage disposal stand to be the biggest gainers in public construction (though it's possible that public housing may rise \$150-million to \$175-million, too).

Schools are expected to be up nearly **\$300-million**, highways **\$400-million**, sewers **\$150-million plus**, and water **\$90-million or so**.

# BUSINESS OUTLOOK (Continued)

BUSINESS WEEK  
JAN. 5, 1957

Private construction will continue to draw much of its strength from industrial and public utility outlays. But the projects are so large that money and materials are a problem (BW—Dec. 15 '56, p31).

Corporations don't worry so much about bond interest as city governments, of course. (For one thing, they expect to make more than 4½% or 5% on the money; for another, part of the cost is a tax offset.)

Thus only an outright shortage of capital would be serious.

But even a big corporation can't get materials out of thin air. Slow deliveries and on-site delays can pare 1957 expenditures.

Public utilities would like to put \$5¾-billion into structures in 1957 if shortages do not interfere. That would top 1956 by more than \$600-million.

Some \$3.2-billion is scheduled for factories, an increase of approximately \$150-million.

—•—

Housing prospects still are uncertain for 1957.

The volume of residential building in the year just ended was only a little above \$15-billion (down from \$16.6-billion the year before). And that drop was the thing that prevented 1956 from making a much more distinguished record in terms of all types of construction.

Government estimates, it might be noted, see for 1957 a moderate further decline for housing, perhaps to \$14.7-billion.

The value of work done on housing in the next few months will be lower than last year. But that isn't as unfavorable, from an economic point of view, as it might sound.

Some building already is down to a \$14.7-billion annual rate.

If it holds that level, it will be under 1956's better months (which were the early months). Yet it will be on a plateau; it no longer will be exercising a down-pull on business.

Some observers regard the government estimate on housing as too conservative. They see volume advancing from its present rate of \$14.7-billion a year, perhaps to equal this year's \$15-billion total.

But even the optimists expect some further decline in the number of starts; the dollar gain would be more house and higher prices.

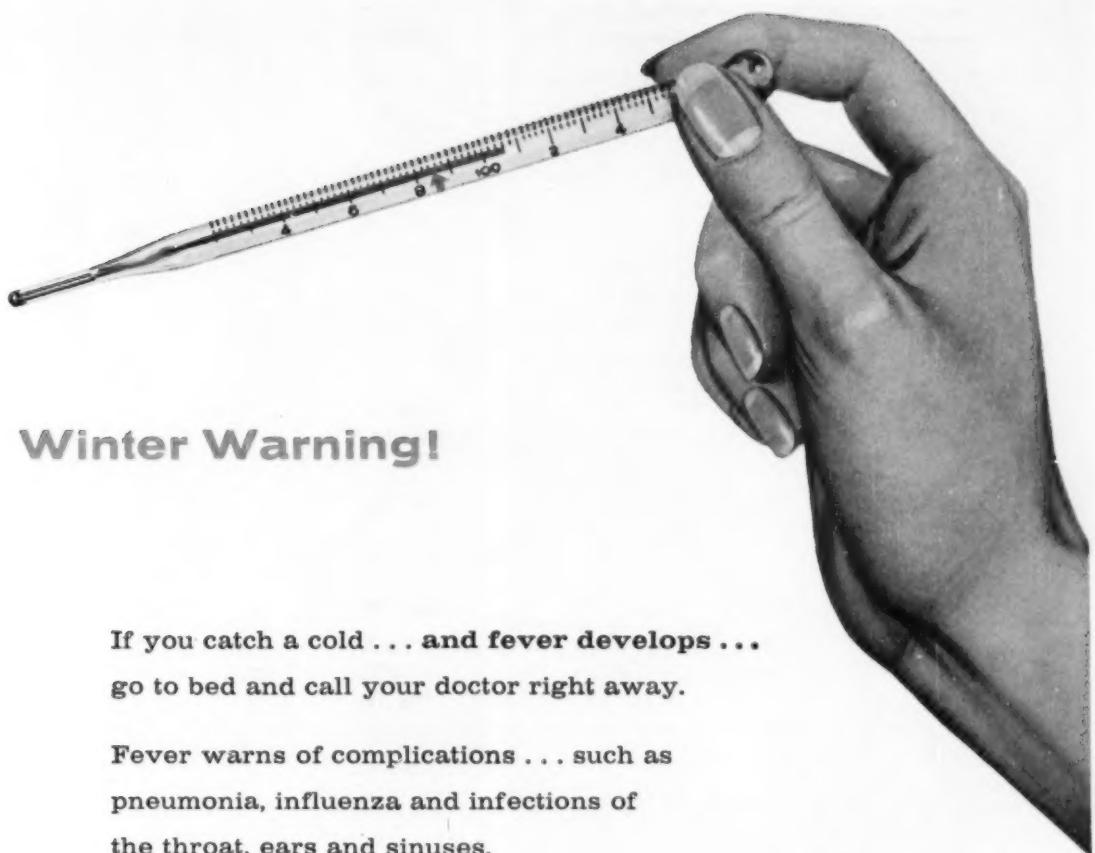
Financial observers generally feel that government steps so far taken to help housing go about as far as they should. And there is some doubt that these (including the higher FHA rate) will mean much.

The fear is not just that pumping up housing credit would compound inflationary pressures. There's also the question whether present demand for housing justifies over 1.1-million starts in 1957.

Neither prices nor rents, of course, as yet indicate any over-supply of new houses. Yet prices of old houses have declined in many areas—and, with this decline, more are being offered for rent.

This trend, if it goes very far, could slow new building.

Contents copyrighted under the general copyright on the Jan. 5, 1957, issue—Business Week, 330 W. 42nd St., New York, N. Y.



## Winter Warning!

If you catch a cold... and fever develops...  
go to bed and call your doctor right away.

Fever warns of complications... such as  
pneumonia, influenza and infections of  
the throat, ears and sinuses.

**Prompt treatment** for these and other winter  
ailments may make a difference between a  
quick recovery and a lengthy, complicated illness.

**To help prevent** a cold, stay away as much as possible  
from people who have colds; get plenty of sleep and rest;  
eat a well-balanced diet; avoid getting chilled,  
wet or overtired and try to avoid exposure to drafts.

*For other helpful information about winter ailments, send  
for Metropolitan's free booklet, Respiratory Diseases.*

COPYRIGHT 1949—METROPOLITAN LIFE INSURANCE COMPANY

**Metropolitan Life**  
**Insurance**   
**Company**  
(A MUTUAL COMPANY)

1 MADISON AVENUE, NEW YORK 10, N. Y.

Metropolitan Life Insurance Company  
1 Madison Avenue, New York 10, N. Y.  
Please send me the free booklet,  
I-57-8, *Respiratory Diseases*.

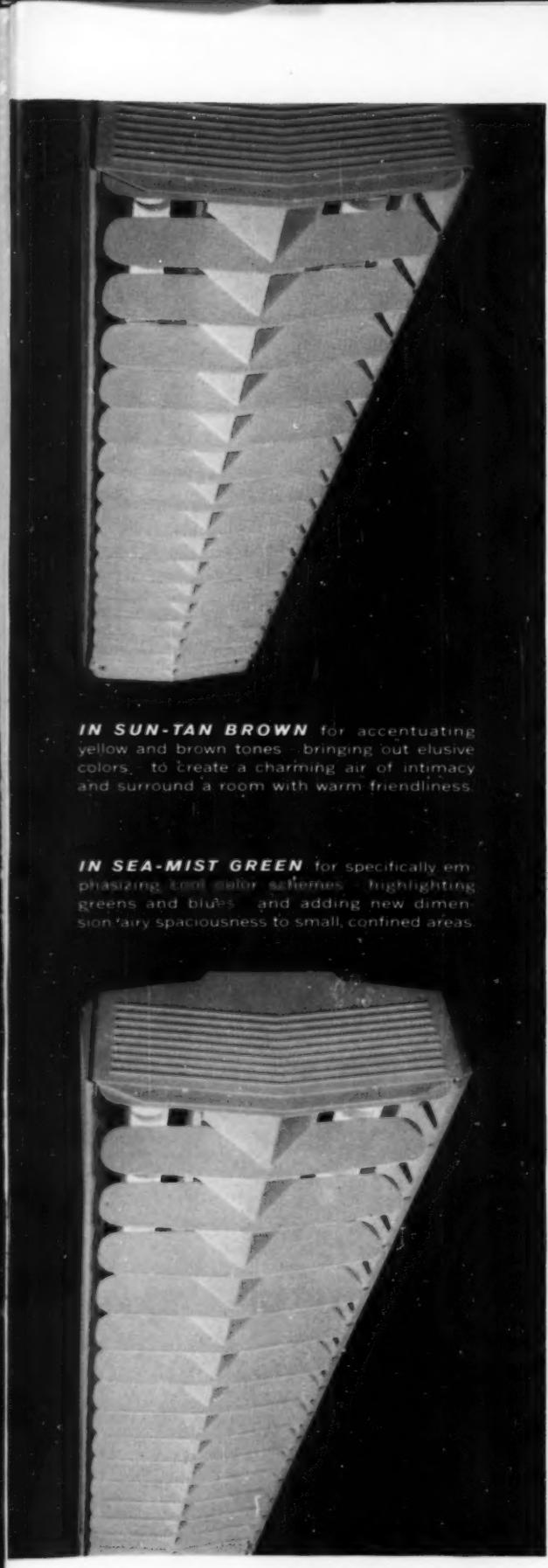
Name \_\_\_\_\_

Street \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_







# New Westinghouse carousel luminaires

**IN SUN-TAN BROWN** for accentuating yellow and brown tones — bringing out elusive colors — to create a charming air of intimacy and surround a room with warm friendliness.

**IN SEA-MIST GREEN** for specifically emphasizing cool color schemes — highlighting greens and blues — and adding new dimensionality spaciousness to small, confined areas.

***A new idea in color lighting  
to accentuate decor in  
offices, stores and schools***

Color comes alive with new Westinghouse Carousel luminaires — snaps to attention for you in perking up office morale, sparking merchandise with extra sales excitement and appeal. You get the same animation in classrooms.

Colored metal side panels and all-metal louvers in the new Carousel luminaires diffuse a soft, smooth wash of light which emphasizes specific colors without repelling others.

With new Carousel lighting, colors literally sing in harmony to create exactly the working and seeing atmosphere you desire and need.

Carousel luminaires are comfortable to see by — equally easy to look at. They take the edge off annoying brightness — eliminate glare. And their colorful, smartly styled appearance adds a subtle touch of beauty to any decorating scheme.

Call your local Westinghouse lighting representative for *all* the colorful details on new Carousel lighting. Or, write Westinghouse Electric Corporation, Lighting Division, Edgewater Park, Cleveland, Ohio. **J-04407**

**YOU CAN BE SURE...IF IT'S**

**Westinghouse** 

I am a  
Business Week  
subscriber...

I am a general officer of a company with over 100 employees. My income is \$19,963 (vs. a national average family income of a little over \$6,000) — and my net worth is \$121,994. I have \$93,687 invested in stocks and bonds.



I am also one of the 43% of Business Week subscribers who select or approve business gifts for associates or customers. My company spends about \$2,000 a year on such gifts—mostly liquor, food, desk and office accessories, and lighters, but a good deal more, too.



I am one of the 97% of Business Week subscribers who own cars (compared to 71% of all American families). As a matter of fact, I am one of the 45% of Business Week subscribers who own two, three, or four cars. (Only about 8% of American families own more than one car.)

*Figures from Business Week Audience Study, 1958;  
Department of Commerce; Automobile Manufacturers Assn.*



YOU ADVERTISE IN BUSINESS WEEK

WHEN YOU WANT TO INFLUENCE MANAGEMENT MEN

## 1957: Critical Year for Boom

● Never in history has a boom continued nearly 18 years, as this one has.

● On age alone, it faces a real test in 1957. The big question: Which way will we be headed on Dec. 31?

● The new year itself promises to be good, over-all, despite credit problems, scarcities of materials and labor, softness in a few industries.

As we enter 1957, the longest and greatest boom in U. S. history is still going strong.

It began nearly 18 years ago when Hitler invaded Poland. Contrary to most predictions, the end of the war did not check it. By contrast, 11 years after Armistice Day, 1918, the country had lived through Black Thursday and was sliding into its worst depression. And 11 years and four months after V-J Day, 1945, our boom is still purring along.

Nonetheless, businessmen and economists wonder how long this boom can last. The question of most concern is not whether the boom will continue in 1957—its momentum alone should assure that. It's the question of which way the economy will be headed when the New Year ends.

● At a Ripe Age—This is a mature prosperity—a veritable Methuselah among booms—and perhaps it is subject to the limitations and ills of old age. Having expended so much energy, it may have less vitality as time passes, may be more vulnerable to economic shifts.

Thus, the boom this year faces troubles that could check its ultimate growth: tightness of money, tight supplies of materials and labor, a flagging in productivity, imbalances in the national economy. These make up 1957's challenge to those who set business and monetary policy.

● Gains Assured—But meanwhile, the strong thrust of today's planning and activity seems certain to carry the boom well into 1957.

For the year as a whole, gross national product should rise to some \$435-billion—about 5% above the \$412-billion level which it averaged in 1956. At year's end, GNP had already risen to an annual rate of more than \$420-billion.

The gain will show up as a rise of \$5-

billion or \$6-billion in total government spending, including federal, state, and local outlays; a rise of another \$4-billion or so in business spending for plant and equipment, and a rise of \$12-billion in spending by consumers, whose disposable income is still growing.

Of course, part—perhaps half—of the predicted 5% gain in GNP this year will represent price increases rather than physical production of goods and services. Even so, a physical gain of 2% to 3% is in the cards for 1957, and any extra price increases would only further enlarge the 5% gain in GNP.

### I. Confounding the Cynics

The economy's growth in less than 18 years can be measured only in figures that are staggering, either in raw form or when adjusted to the change in value of the dollar.

In 1939, gross national product was \$90-billion; today, it is running at an annual rate of more than \$420-billion. During these nearly 18 years, two spurts of price inflation have sliced the value of the dollar—one during and just after World War II and the other during the Korean War. But even in fixed dollars the nation's output of goods and services has more than doubled.

● War Phase—The gains of the first six years, the time of war, are easy to understand. When war broke out in Europe, we had 10-million unemployed workers and a surplus of industrial capacity. All of this excess was quickly absorbed by war demands, both before and after Pearl Harbor. Gross national product rose from \$90-billion to \$213-billion in 1945—from \$90-billion to \$150-billion in dollars of fixed value, a gain of 67%.

Since then, however, the surge of the economy, without war stimulus except briefly during Korea, has continually

surprised all skeptics: the Russians who longed to see the U. S. system come crashing down, the Western Europeans who said our economy was too unstable to be allied with theirs, the businessmen and economists at home who, remembering the 1930s, said it couldn't happen.

From 1946 to 1956, GNP climbed another \$200-billion, a gain of 46% even in fixed-value dollars. Employment stayed remarkably high and steady, with unemployment averaging less than 4%. Industrial production, as measured by the Federal Reserve Board, never declined for 12 months in a row.

Yet at every economic turn, the experts wrote an obituary for the great American boom.

● Series of Surprises—Each time this happened, the obituary turned out to have been premature:

In 1946, the federal government slashed its spending from \$90-billion to \$20-billion but, with the help of pent-up consumer and capital spending demands, the boom went on.

In 1948-49 and again in 1953-54, inventory accumulation and capital spending both turned down, but the recessions proved to be mild.

1955 might have been a modest year but for the spending spree of consumers. In that Year of the Consumer, personal consumption—once regarded as a passive effect rather than a cause of prosperity—became the economy's main dynamic force with a mighty jump of \$18-billion.

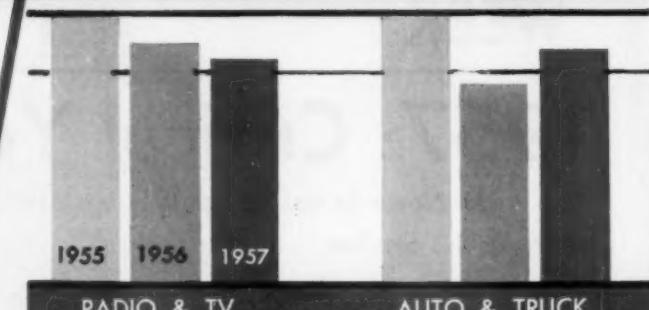
The Cassandras croaked again, though more cautiously, at the start of 1956, when it became clear that neither autos nor housing could match their 1955 performances. But '56 turned out to be the Year of the Capital Spender. In 1955, business spending on plant and equipment had gained less than \$2-billion over the previous year; in 1956, it leaped \$6-billion, a gain of more than 20% above 1955.

### II. Government's Turn

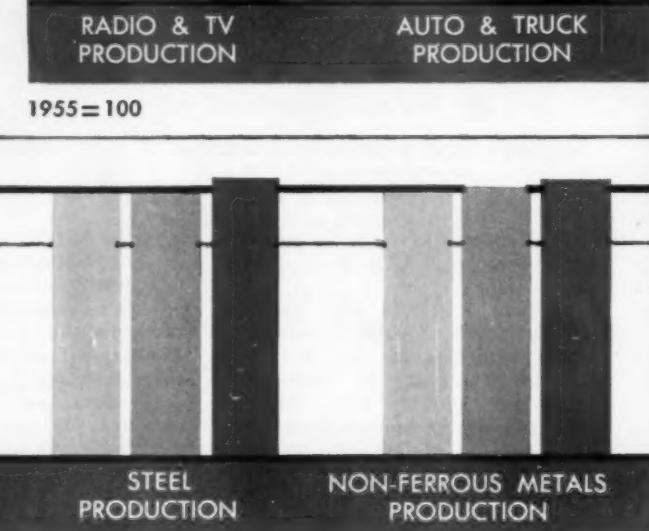
Now, consumer spending shows signs of turning a bit sluggish—though a \$12-billion gain as predicted for 1957 would have seemed brilliant not so many years ago—and business plans a gain of "only" 11% in capital spending (BW-Dec. 15 '56, p31). So the obituaries are being polished up to apply this year. However, international crisis and the need

# INDUSTRY BY INDUSTRY—

Most U. S. industries, as these charts show, can expect to share the general prosperity forecast for 1957. These charts, based on detailed industry-by-industry forecasts by the McGraw-Hill Dept. of Economics, indicate an over-all increase of 2% in industrial production in 1957 compared with 1956. Production in 1956 was about 4% higher than in 1955. In 1957, all but three of the 22 industries shown on these pages are expected to better their 1956 performances.



1955 = 100



APPAREL  
PRODUCTION

FARM MACHINERY  
PRODUCTION

STEEL  
PRODUCTION

NON-FERROUS METALS  
PRODUCTION

PETROLEUM PRODUCTS  
PRODUCTION

CHEMICALS  
PRODUCTION

ELECTRICAL APPARATUS  
PRODUCTION

AIRCRAFT & PARTS  
PRODUCTION

Data: Federal Reserve Board • American Iron & Steel Institute • Ward's Automotive Reports • McGraw-Hill Economics Dept. • U. S. Bureau of Mines • BUSINESS WEEK Estimate.

for public works can make 1957 the Year of Government Spending, once again to confound the Cassandras.

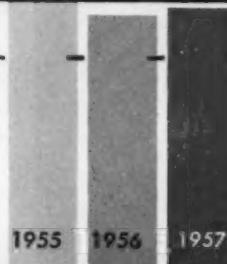
Spending by government on all levels is likely to run about \$6-billion higher

than in 1956. This contrasts with an \$8-billion drop in 1954, a \$300-million gain in 1955, and a \$2.2-billion gain last year. The 1957 gain will probably split about equally between the federal gov-

ernment on one hand and the state and municipal governments on the other.

Federal spending in calendar 1957 looks as if it would hit \$71-billion, compared with \$68-billion last year. Fatten-

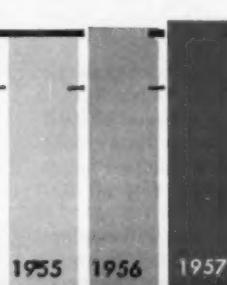
# The Prospects for 1957



LUMBER & PRODUCTS PRODUCTION

FURNITURE & MISC. MANUFACTURES PRODUCTION

TEXTILE MILL PRODUCTS

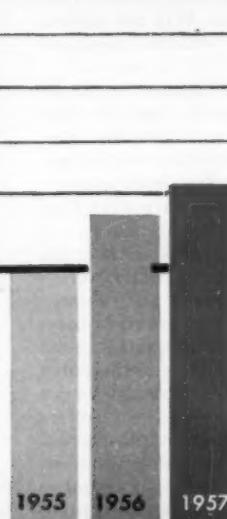


PROCESSED FOODS & BEVERAGES PRODUCTION

PAPER & ALLIED PRODUCTS PRODUCTION

ELECTRICAL APPLIANCES PRODUCTION

CONSTRUCTION MATERIALS PRODUCTION



CONSTRUCTION MACHINERY ORDERS\*

INSTRUMENTS & CONTROLS PRODUCTION

MACHINE TOOL SHIPMENTS\*

RAILROAD EQUIPMENT PRODUCTION

\*Based on Dollar Amounts

ing military funds accounts for some of this; defense spending will rise from \$35.9-billion in 1956 to a bit over \$37-billion. But the biggest part comes in public works, foreign aid, and a variety

of other funds apart from the military.

• **Greater Need**—State and municipal spending is already surging upward from its recent steady increase of about \$2-billion a year. In third-quarter 1956,

it attained a rate of \$33-billion a year—\$3.1-billion higher than a year earlier. This makes a \$3-billion gain during 1957 look quite probable. As the population gains in numbers and in mobility



**AUTOS** are expected to do better this year than last, offsetting declines in other industries, particularly home building.

—both in where it lives and how many cars it drives—the need for state and local spending increases.

To provide highways, states must beef up appropriations to match federal funds under the 1956 highway act; cities must improve their streets and expressways.

In education, enrollments are going up, and so are the costs per pupil. Whether or not Congress votes federal school aid, total spending on education is sure to rise.

So is spending on health and welfare, conservation, water supply and sewage disposal, parking facilities—things that are needed in proportion to population growth and the development of new residential areas. Last November, a record \$2.7-billion in state and municipal bond issues came up for vote, and 88% of it was approved.

### III. Restraints on Boom

However, spending is not the only ingredient of a boom, and some restraints on economic growth are beginning to chafe. Growth is pressing hard against the limits of the nation's resources, both material and human.

• **Materials—Steel** is a good example. Since September, when they completed their recovery from the summer's strike, the mills have been running above 100% of rated capacity. Yet several forms of steel are still in such short supply that government and corporate construction projects are slowed. The strain is likely to increase this year, with a step-up in public works, very likely a better year for auto sales, and no letup in plant construction.

Obviously, too, the steel industry can't keep expanding its capacity without cutting further into some of the tightest supplies of its products.

Other materials besides steel have

been under pressure, including nickel and cement, and the Suez crisis intensified demand for oil and coal. On the other hand, supply has caught up with demand in important sectors of the materials market, such as lead, zinc, tin, copper, lumber, and plastics.

• **Manpower**—Along with some materials, labor—particularly skilled manpower—is in short supply. The labor force has already expanded dramatically; unemployment is insignificant, ranging last year between 2.8% to just under 4% of the labor force. And it looks as if fewer workers can be added to overall manpower in 1957 than in 1956.

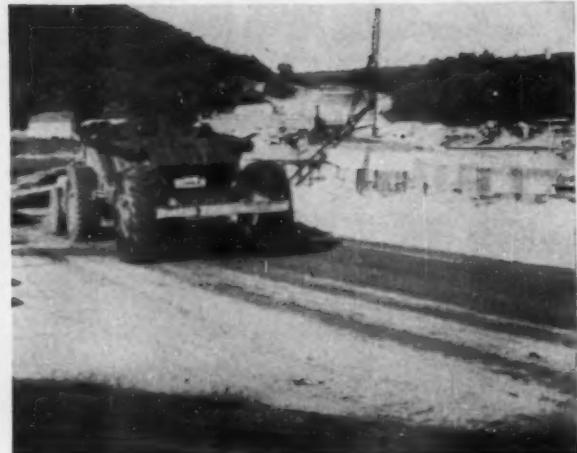
The Census Bureau predicts a gain of only about 1-million in the labor force during 1957, compared with 1.2-million last year, and foresees little or no net increase in the younger age group, up to age 44.

• **Effect on Prices**—These shortages are reflected in prices, through material and labor costs. The upward trend in costs can be expected to continue, perhaps to strengthen, during 1957. This means a probable increase in the cost of living as the year wears on, although the November index of 117.8 may dip seasonally between now and March of April.

• **Tight Money**—For better or for worse, tight money stands as another obstacle to the running of the boom.

Cheap and abundant money fed the great economic expansion that began with World War II. Huge government spending created huge government debt that swelled the volume of liquid assets held by businesses and individuals; inflation raised the value of private assets, such as old homes, and permitted a vast increase in private debt.

This combination produced price inflation, but it also put steam behind investment, raised the economy to a full employment level, carried it through



### HIGHWAYS

and other public works will pour more government money into the economy during 1957.

temporary setbacks induced chiefly by excess of inventories.

The effects of this expansion in debt and liquid assets had by no means spent themselves in 1956; last year, in a sense, they triumphed over the Federal Reserve's tight money policies.

• **Riddle of '57**—As the full-employment economy strains against its limits in some areas, generating an inflationary force, the nation has been relying on the Federal Reserve to hold prices steady. It does this by restricting the supply of money, which in turn permits or forces interest rates to rise. The riddle for 1957 is this: Will the monetary squeeze finally induce recession and unemployment?

Fear that this can happen is sharpened by the continued drop in the liquidity of corporations. Liquidity—the ratio of cash and government securities to current liabilities—has been declining since early in 1955, is now at the level of the early 1940s.

The latest Securities & Exchange Commission survey of corporate working capital (BW-Dec. 29 '56, p30) shows that from the second to the third quarter of 1956, corporations gained only \$400-million in cash and governments while current liabilities rose \$5.5-billion.

If too many companies feel themselves starved for cash in 1957 and elect to solve their problem by cutting back inventories and eliminating or paring capital spending plans, the steam could start fizzing out of the boom.

### IV. Danger Signs

So far, tight money hasn't seriously impeded business spending for new plant and equipment. But in 1957 it very well may. Unless the Federal Reserve decides to loosen the screws it has kept on the money markets, a lot of



**NEW PLANTS** will be built at a rate of 11%—or \$4-billion—higher than 1956, a record-breaking year.

business's best-laid plans for spending in 1957 may be upset by lack of money.

Business kept up its rate of spending in 1956 by drawing heavily on its liquid assets and by borrowing a record total from the commercial banks. The banks, in turn, were able to accommodate their business borrowers in spite of the Fed's squeeze only because they still had portfolios of government securities they could sell off.

But by now, both corporate treasurers and bank cashiers have liquidated just about everything they dare. And the depressed price level of the government bond market will make them all the more reluctant to sell investments.

This means that, unless there is a switch in Federal Reserve policy, business will have to scrape up the money it wants by retaining earnings and by selling securities in the capital market.

• **New Capital**—Seeing the handwriting on the wall, corporate treasurers are already leaning more heavily on the capital market, even if it means paying a stiff price for the money they get.

During the second half of 1956, bank loans to business were below expectations and nowhere near the level registered in the second half of 1955. This was partly because Detroit was slow in getting the new auto models out. But it also reflected the fact that more corporations were selling bonds and stocks in the new issues market, where the rising yields were attracting investable funds.

This increasing reliance on new capital issues may take some of the strain off the banks. But if business has to look to the capital market as its only source of new funds in 1957, it is in for a rough time—so rough a time, in fact, that a lot of expansion projects probably will be postponed.

That is why everyone is watching the Federal Reserve for some sign of softening.



**NEW MONEY** may be harder to get from banks, though. A lot depends on Federal Reserve policy.

ing. Over the past 12 months, the Fed has held the increase in the money supply down to a little over 1%—which compares with an average increase of over 3% between 1950 and 1955. If the money managers are going to be equally hardnosed in 1957, corporate treasurers can prepare for the worst.

• **Tipoff**—So far, the Fed has dropped no hints. But its intentions may become evident soon. The thing to watch is the way the Fed behaves during the seasonal drop in bank loans and the reflex of money in circulation that always occurs at the start of the year.

During the last quarter of 1956, the Fed pumped an extra \$1.4-billion of reserves into the banking system by purchasing government securities in the open market. This by itself didn't necessarily mean a reversal of the tight money policy. The new reserves were intended only to take care of the seasonal demand for credit that comes in the final three months of the year as business borrows to finance Christmas inventories and consumers pull cash out into circulation for Christmas shopping.

The infusion of \$1.4-billion of new money didn't even show on the surface—in interest rates, securities prices, or general availability of credit. But it did strengthen the basic underpinnings of the market by helping the commercial banks to get out of debt to the Reserve banks.

For the next couple of months, business will be paying off its seasonal loans, and money will be coming back out of circulation. This will further ease the position of the banks—provided the Fed doesn't take offsetting action.

So the tipoff to the Fed's attitude is likely to be the open market policy that it follows during this period. If it sells government securities to mop up the extra \$1.4-billion of reserves, it will be serving notice that it intends to keep

credit as tight as ever. If it lets the commercial banks keep all or even a major part of those extra reserves, it will in fact have switched to an easier money policy.

## V. Housing Slackens

The most obvious victim of tight money this year was the housing industry. And the downturn in housing starts will probably continue in 1957.

In 1956, new non-farm housing starts added up to better than 1.1-million, compared with 1.3-million in 1955. Starts may well drop another 100,000 this year, which would put them below the million mark for the first time since 1949.

Not all the blame for such a decline would be put on the credit pinch. It's partly a weakening of demand for new homes after seven years of fast-paced building and a relatively low rate of family formation.

Still, most of the trade thinks tight money is the main brake on housing. And the big institutional lenders won't be putting much new cash into mortgages. There's one consolation: With the raising of the FHA rate to 5%, the squeeze on mortgage money seems unlikely to get worse.

• **Dollar Volume**—The anticipated drop in physical volume of home building need not mean an equivalent decline in dollar volume. Prices are rising, and home buyers are also looking for bigger and costlier houses. If housing starts drop no farther than to 1-million, dollar volume probably will hold at around \$15.5-billion, compared with \$15.7-billion last year.

Moreover, spending to enlarge and modernize existing houses is slated to increase this year, helping to keep the dollar figures high.

In some ways, too, a further slide in



## HOUSING STARTS are destined to drop, but demand for bigger and costlier houses will keep the industry's dollar volume fairly high.

housing may help the economy as a whole—by releasing funds for corporate borrowing, by easing pressure on materials and manpower.

## VI. Consumer Spending

Consumers, too, felt the money pinch last year, and may feel it again this year. What bothered them even more, though, was the burden of old mortgages and consumer debt that has to be repaid. Their obligation to repay this debt helped to keep last year's net increase in consumer credit to \$2-billion, compared with \$4.4-billion in the previous year's splurge.

These repayments made up a large part of the increase in consumer savings—7.4% of disposable personal income last year, 6.6% in 1955.

• **Flattening Out**—This year, total personal income should continue to rise, although not at the rapid pace of 1956. A slowdown in per capita disposable income was well under way by last summer—the third quarter dipped below the Jan. 1 level. This contrasts with 1955, when per capita disposable income, measured in dollars of constant purchasing power, rose steadily throughout the year.

This year, with a smaller increase in the labor force, and smaller increases in wage rates, disposable income seems likely to rise by only about \$14-billion, compared with \$16-billion in each of the last two years. More of the consumer dollar will go to autos, less to housing and appliances. Consumers can expect stiffer credit, especially on autos, than they got the last two years.

## VII. What's to Blame?

It was already clear in 1956 that some real factors have been slowing down the growth of the economy. This has shown up as an interruption in the steady climb

of the economy's productivity. In 1956, the output of goods and services—when the effect of price increases is deducted—grew by only about 2%. Since employment grew by about 2-million workers, or about 3%, this means that productivity actually declined last year.

If, in 1957, half the gain in GNP to a level of about \$435-billion represents only higher prices, and if an additional million workers find jobs, this will mean that productivity will show only a slight

increase of 1% or less—compared with an average annual increase of about 3.5% in the preceding decade to 1955.

If the postwar spurt of the economy slows this year, you will hear all sorts of theories about causes.

Some observers, including members of the Patman group in the Joint Economic Committee in Congress, are already blaming tight money for checking economic growth. Many employers feel productivity is suffering as they scrape the bottom of the labor barrel and run into material shortages. Some economists say the economy is being held back by structural weaknesses—imbalance between capital and consumer spending, between industries in the over-all.

Some people blame inadequate steel capacity for bottlenecking economic growth. Others say excessive taxes destroy incentives. Antitrusters contend that industry is overly concentrated to the detriment of the small or new company, particularly in today's competition for credit and new capital.

This new year may shed light on whether these hypotheses are merely the anxieties that go with prosperity or whether they are real enough and serious enough to derail the great boom. The year can show whether a slower rate of growth is a sign of a healthier boom or the prelude to a downward readjustment.

## New Scrutiny for Monetary Controls?

A group of bankers and businessmen is telling Congress it's high time for a review.

Proposals for a thorough review of the structure and operation of federal monetary controls got unanimous support this week from a committee of 27 representative bankers and businessmen.

In doing so, the committee stepped outside the role for which it was created—to review suggestions for technical repackaging of federal law governing banks and other financial institutions. It is headed by Kenton R. Cravens, president of the Mercantile Trust Co., St. Louis.

The group felt that such a study is necessary because of:

- The major changes in the economy since the Federal Reserve Act was passed in 1913.
- The volume of piecemeal legislation enacted on financial matters in the intervening 43 years.

- **Details**—The proposal is for a "Monetary & Financial Institutions Commission" of 12 to 17 members. Four or six would be representatives of Congress and the balance "outstanding citizens" appointed by the President. The commission would be given subpoena power and authority to require

testimony under oath, with two years to complete its work and report recommendations to Congress.

The committee's 50-page report to the Senate Banking Committee is mainly devoted to saying "yes" or "no" to some 190 suggestions for amendments to laws applying to national banks, the Federal Reserve System and banks, Federal Deposit Insurance Corp., federal savings and loan associations, and federal credit unions.

The Senate committee's own staff has already reviewed these suggestions. Now that businessmen have had their say, subcommittee Chairman Willis Robertson (D.-Va.) hopes to draft a revised bill by mid-January, with hearings to come perhaps by Feb. 1.

- **Chances**—Establishment of the commission, however, is something else again. While it has been suggested elsewhere—such as before the Joint Economic Committee only a few weeks back—both Democrats and Republicans are sure to stage a lot of debate over the composition of such a commission and the role that is to be assigned it before they'll set it up.

# "Keep Out" Sign in Middle East

● Eisenhower's new policy is a direct warning to the Russians that if necessary the U.S. will fight to keep them out.

● It means new commitments for the U.S.—and a further step toward world leadership.

The U.S. is extending its strategic frontiers, and its commitments to resist the spread of Communism, to a new area of the world—the troubled Middle East. Pres. Eisenhower has decided that it is now necessary to do for that area what—in different ways—the Monroe Doctrine did for Latin America, the Truman Doctrine did for Greece and Turkey, NATO did for Western Europe, and the Formosa Declaration plus the SEATO alliance did for the Far East.

To put teeth into this new policy—which history is sure to label the Eisenhower Doctrine—the President at mid-week prepared to address a joint session of Congress on Jan. 4 to outline his new Middle Eastern policy and to ask for a joint resolution authorizing him to do two basic things:

- Use U.S. armed forces to repel any Soviet aggression in the Middle East. Beyond this, the President will ask as broad authority as Congress will give him to come directly to the support of any victim of aggression in the Middle East—whatever the aggressor—if the United Nations proves unable to halt such aggression.

- Use substantial amounts of economic aid to strengthen the area's political and, economic resistance to Communism, and also to promote political settlements among the warring factions of the Middle East itself.

- Three-Pronged—The new declaration will be designed to use U.S. strength to block any foreign interference in the area in order to permit Middle Eastern countries to settle their own differences. Obviously, this means serving notice on the Russians that if necessary the U.S. will fight to keep them from moving into the vacuum created by the collapse of British and French influence. But it will also be aimed more subtly at blocking any further British and French military moves.

The declaration is also intended to limit the opportunities for Communist subversion in the area. Congress will not be asked to permit the President to send armed forces into countries threatened with internal subversion. But U.S. officials believe that subversion will become more difficult if it is clear that it cannot be backed up by an overt Russian takeover.

The new U.S. commitment will act

as a substitute for the now defunct Tripartite Declaration that pledged the U.S., Britain, and France to come to the aid of any victim of aggression in the Middle East. Washington still is fearful that the Arab-Israeli conflict may flare up again unless there is some U.S. pledge to resist an aggressor.

Put these objectives together, and the hoped-for net effect will be to (1) reassure Middle Eastern countries against outside military pressure; (2) warn Israelis and Arabs that further attacks against each other won't pay off; (3) reassure Western Europe countries that the U.S. intends to safeguard their economic interests in the Middle East; and (4) warn Russia not to underestimate U.S. determination to keep Communism out of the area.

- Deliberation—The Administration's move has been under consideration ever since the Israelis, British, and French launched their ill-fated attack on Egypt last October. It is not a hasty response to any sudden increase in the Russian threat to the Middle East. In fact, Eisenhower deliberately refrained from calling Congress into special session to consider such a policy during the dangerous days in November when the Russians were threatening to send "volunteers" to fight for Egypt. He feared that such a move at that time would be alarming enough to world opinion to trigger a big war.

The ugly fact remained, however, that with the collapse of British and French influence in the Middle East, only U.S. power remained to halt a gradual seeping of Russian influence into the area. Eisenhower felt it was vital to dramatize U.S. determination to stabilize the area—particularly since the split with Britain and France. U.S. reliance upon the U.N. during the Suez Canal crisis might have led all parties concerned to conclude that the U.S. was unloading its responsibilities on the world organization.

- Buildup—Various means of dramatizing U.S. concern with the Middle East such as—joining the Baghdad Pact, concluding new defense treaties—were rejected because of international political complications. The final decision was in favor of a unilateral Congressional declaration of U.S. intent.

The Administration last week launched its bid for Congressional sup-

port for a strong Middle Eastern policy with the greatest care. It clearly expected resistance. Thursday, the vague outlines of the new plan were leaked to a few key journalists. Friday evening, State Secy. Dulles dined with a selected handful of newspapermen at the home of J. R. Wiggins, executive editor of the Washington Post, and explained Administration thinking in more detail.

The idea was to give both congressmen and foreign governments a chance to react to the move before freezing into a hard policy that would be difficult to modify without seeming to be backing down.

- Reaction—The first Congressional reactions ranged from cautious to hostile. But on New Year's Day, the President, Dulles, and other Administration official held a four-hour briefing session with Congressional leaders of both parties. The general reaction of congressmen was that the President would get overwhelming backing for the gist of what he wants. Key Congressional leaders conferred all week with Dulles and other Administration leaders on the drafting of the President's message to Congress. And they will have a lot to say about the form of the final resolution.

Congress has little choice but to back the President. To fail to do so after so much publicity has been given the proposal would offer the Reds a free hand in the Middle East. But there is bound to be a lot of arguing before the resolution is voted.

Some Democratic congressmen, and privately some Administration officials as well, raise two basic questions. First, how does the new tough stance in the Middle East fit with Administration policy of adopting a flexible position so the Russians can withdraw gracefully in Eastern Europe and perhaps even liberalize their internal regime? Second, how does the policy jibe with the announced U.S. intention of relying primarily upon the U.N. and the moral force of world opinion to get settlements in the Middle East?

The Administration's answers:

- Our basic policy toward the Russians is one of containment plus flexibility. If the Russians are to be persuaded to get out of Eastern Europe peacefully, they must be convinced that it is the only way out of their current difficulties.

- The new policy supplements our primary reliance on the U.N. to get diplomatic settlements within the area. It establishes a protective shield against foreign intervention within which the diplomatic machinery and moral force of the U.N. can work.



EDWIN G. NOURSE, former head of Council of Economic Advisers, took orthodox view that a full employment policy would endanger price stability.



ROY L. REIERSON, of Bankers Trust Co., New York, felt that problems of prosperity are as important for economists to study as problems of depression.



PETER HENLE, of AFL-CIO, argued that government is committed to a high level of employment; he felt we can have prosperity without having inflation.



DONALD S. THOMPSON, Cleveland's Federal Reserve vice-president, said present monetary policy for fighting inflation is "reasonable and moderate."



GROVER W. ENSLEY, staff director of Congressional Joint Economic Committee, wanted economists to come up with better theories to guide public policy.



E. SHERMAN ADAMS, of American Bankers Assn., called for greater coordination of credit policies of various types of lenders to help stabilize the economy.



PRACTICAL problems get spotlight at

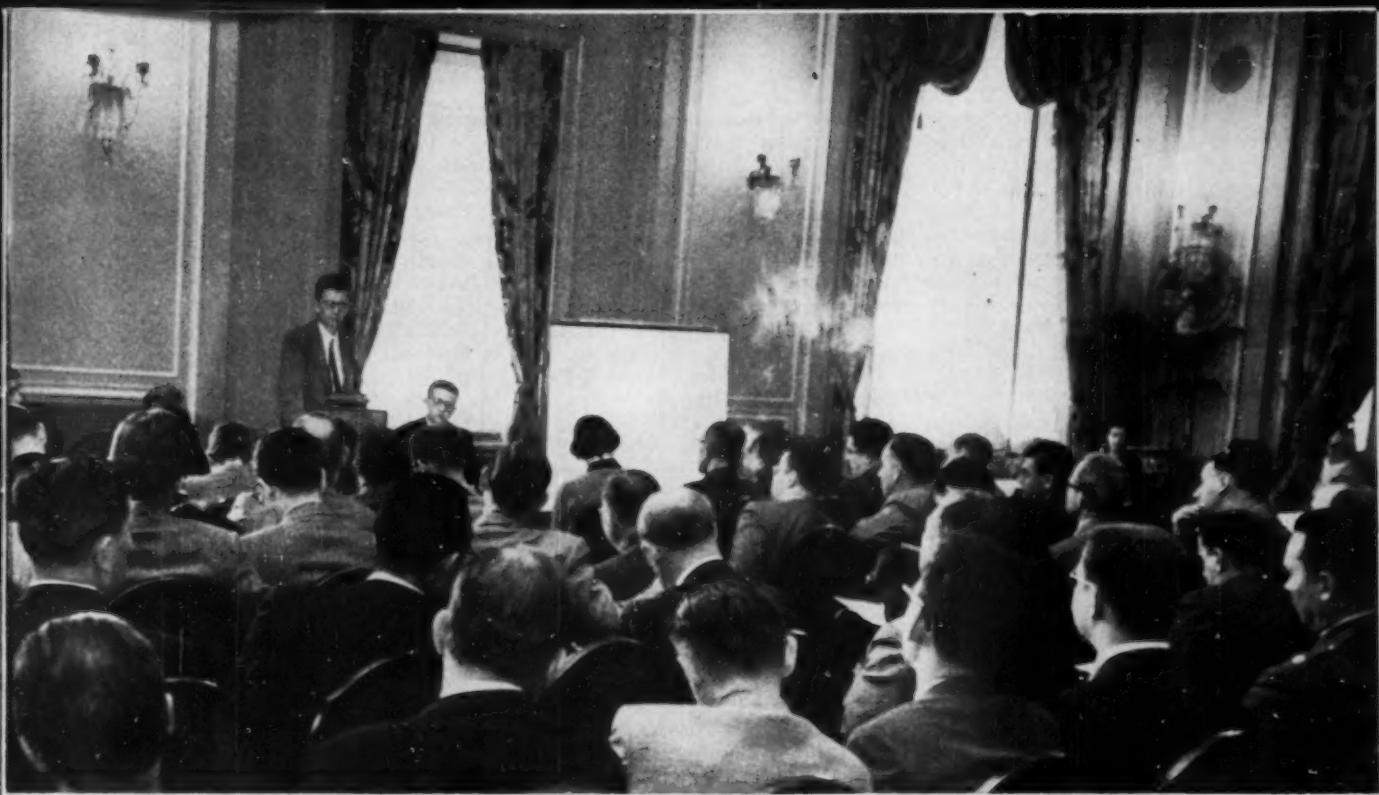
## Economists

Theoretical discussion took a back seat among the economists who turned up for their annual convention in Cleveland last week. Usually the members of the American Economic Assn., drift naturally toward discussion of abstract, and even abstruse, problems. This year, instead, the focus was on the practical question of what economic policies should be followed during the present period of prosperity.

The economists came up with no pat solutions. In fact, they were frank in admitting they did not have the answers. But they argued at length over such problems as the Federal Reserve's monetary policy and the inflationary influence of the Employment Act. And the emphasis they placed on these concrete questions was an indication that such problems had as much intellectual pull upon them as the more theoretical assignments economists usually like to set themselves.

• **Keynote**—This practical approach to current economic problems was stressed by the American Economic Assn.'s outgoing president, Edward E. Witte of the University of Wisconsin, in the major address of the convention.

Witte, who fathered the Social Security Act and is himself a prominent practitioner of practical economics, declared that economists have an obligation to apply their learning to questions of public policy. "It is on this score,"



American Economics Assn.'s Cleveland convention (here Hollis Chenery of Stanford talks on economic development), as . . .

## Find Prosperity a Baffling Thing

he bluntly added, "that I have the most serious doubts about the contributions economists are making."

• **Clear Sign**—Witte's candid dressing down of the economic profession may have been resented by some academic theorists, but the majority were clearly in agreement. The activity at the sessions themselves was a clear sign of the shift in emphasis.

To be sure, there were the usual esoteric research reports on such subjects as Derivation of the Slutsky Equation, and the Geography of Prices and Spatial Interaction. But many of the formal sessions, and much of the informal discussion in the corridors, was devoted to an examination of current economic trends—the sort of thing that any businessman could follow. In fact, one feature of the meetings was that both business and academic economists showed concern over the same problems.

• **Magnet**—Even the sessions on economic theory reflected the renewed interest in practical policy. It was in evidence, for example, at the session dealing with a reappraisal of the late John Maynard Keynes. This meeting drew the biggest single audience of the convention—an indication of Keynes' magnetic appeal as well as his standing as the chief architect of stabilization and employment techniques.

Indeed, the widespread application to-

day of contra-cyclical techniques first developed by Keynes led one speaker to remark that "nearly every economist is a Keynesian now."

There was general agreement that Keynes had provided the essential tools for economic analysis of the economic structure, and general dissatisfaction with the progress made since his death. Dudley Dillard, of the University of Maryland, praised Keynes for taking positive stands on the great issues of his time and told his audience that "in striving for neutrality, economists typically achieve sterility."

• **New Problems**—The convention as a whole made clear that economists were wrestling with a new situation. And the change was perhaps best put in focus by Roy L. Reierson, of New York's Bankers Trust Co., when, he declared that "we need to give more attention to the problems of prosperity."

This marks a big shift in emphasis. Most of the practical and theoretical advances made in the last 20 years have involved deflation and depression. But many economists now feel that prosperity and inflation entail crucial problems of their own. The meetings last week revealed some of the specific areas of concern:

- The question whether there is a conflict between the objectives of maximum employment and price stability.

- The increasingly important—and

controversial—role of the Federal Reserve in combatting inflation.

- The lack of knowledge on a wide range of economic problems, and the realization that policies geared to deal with deflation are of little use in a period of prosperity.

- **Inflation**—This coming to grips with the question of prosperity is based on the feeling that a serious decline in the economy is most likely to come from an inability to curb inflation. For example, Reierson took the view that the easy money policy followed during the 1954 recession was largely responsible for the present inflationary threat. In other words, during that time, the emphasis was mainly on preventing depression, without enough attention to the other side of the picture. "Economic policy in a business downturn," he stated, "must keep an eye on the business upturn that will follow."

- **Government's Role**—The role of government in promoting prosperity was closely examined. Edwin G. Nourse, former chairman of Pres. Truman's Council of Economic Advisers, spoke for many orthodox economists in declaring that the Employment Act of 1946 should not be considered as a commitment to promote full or even "maximum" employment as the main goal of national policy. The acceptance of such a notion, he felt, implied "a steady inflationary creep" that would create a

need for government controls. Nourse wanted less government intervention in the economy.

Nourse's position differed from that of Peter Henle, AFL-CIO economist, who contended that the Employment Act was an integral part of the government's social and economic policy. From labor's standpoint, employment, not price stabilization, has priority.

Of the economists in between, most felt that the objective of full employment was incompatible with a stable price level, because of the pressure on prices resulting from wage boosts. But the issue was not clear-cut, and as one economist summed up, "the conflict between inflation and stability is more like guerrilla warfare than an open battle."

• **Money Policy**—There was a much more sharply drawn controversy over the Federal Reserve's monetary policy. On this issue, the orthodox economists fully supported the Fed's efforts as the best means of restraining inflation.

But other delegates were not so sure. Many insisted that the Fed's reliance on general controls had an uneven impact on borrowers, and that such controls were slow to make themselves felt. And they contended that the power of the Fed was so great that the money managers had become the managers of the economy.

• **Complaint**—One orthodox economist, E. Sherman Adams of the American Bankers Assn., felt that the Fed was facing real problems. He feared that the restrictive credit policy being followed by the Fed would not prevent instability, because of its failure to cover all areas concerned with credit. He cited the developing use of credit from non-bank sources such as savings and loan associations and insurance companies.

Adams complained that while the Federal Reserve has kept the banking system under restraint, thus providing a stabilizing influence, non-bank lenders—including government credit agencies—are actively stimulating credit expansion that upsets stability.

• **What to Do**—The solution, said Adams, was to bring about greater coordination in credit policy, though he himself did not know how it could be done. In addition, he supported Nourse by asserting that it might be desirable to amend the Employment Act in order to place equal weight on price stability and on employment.

Adams declared that the "Council of Economic Advisers and many others have been noticeably less concerned with price stability than the Federal Reserve authorities." This dispute, he said, "could lead to serious conflicts in public economic policies and conceivably to an impairment of the Fed's independence."

Although Adams supported the Fed,

he didn't feel that its policies had been able to control inflation. On the contrary, he claimed that a critical test is now in the making. His argument was that the uneven impact of credit policy has gravely lessened the availability of bank credit, and if the Fed continues its present policy, it might mean a crisis for the entire banking system. But if it relaxes in order to avoid a crisis, then it might invite continued inflation.

Adams called for more knowledge and thinking on the problem.

• **Data Needed**—The desire for more information was apparent in many other areas. Eli Shapiro of the Massachusetts Institute of Technology, commenting on the "growing interest in a thoroughgoing overhaul of our financial mechanism," said that diagnosis was necessary before prescriptions could be applied. As one economist put it, "we used to think we had all the answers, but it looks as if we're just beginning to ask the right questions."

The sectors where the need of more information seemed greatest were those that have contributed most to prosperity. George W. Terborgh of the Machinery & Allied Products Institute, for instance, urged the importance of learning more about business investment in new plant and equipment.

He felt that existing surveys on capital spending plans need to be supplemented by additional information that would help determine what rate of spending could be sustained and whether present spending represents borrowing from the past or from the future.

• **Doubts**—For the most part, the academic economists seemed more inclined than their business colleagues to admit that they know too little about the current shape of the U. S. economy. Prof. R. A. Gordon of the University of California frankly admitted: "Our ability to forecast is still very restricted.

Equally serious, we have only a limited basis for judging the effectiveness of available stabilization techniques—primarily fiscal and monetary policy."

Gordon pointed out that we do not know how much of an inflationary bias is actually built into our economic system and he called for more work on determining what makes for cumulative price spirals.

• **Orthodox**—One session clearly indicated the split. This was a meeting on the future of business financing—which Walter E. Hoadley, Jr., treasurer of Armstrong Cork Co., declared was one of the biggest problems facing American corporations.

At this session, Norris O. Johnson, vice-president of New York's First National City Bank, took the orthodox approach in stating that a high level of interest rates was needed to encourage saving and discourage marginal investment. It was his view that inflation will result if there is not a curb on spending and more incentives to savings—including tax reform and high interest rates.

• **Questioner**—Prof. Irwin Friend of the University of Pennsylvania, took issue. He declared that most of Johnson's statements were generalizations that could not be supported by statistical evidence.

For one thing, Friend contended that higher interest rates may encourage, rather than discourage, short-run investment, because of the fear of even more costly financing in the future. At the same time, he saw no justification for the idea that higher interest rates stimulate saving.

And he doubted whether high interest rates would prevail over the next 10 years, because they depend not only on economic conditions, "but on such non-economic factors as the political party in power." As he saw it, "more research was needed to answer these problems."

## Steel Without Fast Write-off

**Expansion will go on, despite the turndown of the industry's appeal for quick amortization to finance new plant.**

**Higher prices are surer than ever now.**

The nation's steel producers will keep right on expanding both capacity and output, despite Washington's refusal last week to give them additional tax help in financing \$2.3-billion of new facilities (BW-Dec. 29 '56, p28).

Without the help, the new facilities will cost a bit more; they may take a while longer to build; financing may take a bit more ingenuity. But built they will be. The simple fact is that steel has to keep on expanding to meet

record demands, which show no sign of leveling off, much less of letting up.

If the industry dared to call off planned expansions—estimated at 15-million more tons of new capacity, costing \$3-billion-plus, over three years—it would be wide open to the competition of such materials as aluminum and the new plastics and metals. What's more, the Suez tieup puts a must on new capacity for tankers and tubular



## Pace-Setter in Lubrication

A familiar sight to air travelers at airports from coast-to-coast is the green and white Sinclair truck dispensing aircraft oil. In the last five years, major air-liners lubricated exclusively by Sinclair have carried about 50 million passengers, and flown almost 900 million miles—or 36,000 times around the world!

The record speaks for itself. Sinclair Refining Company is one of the largest and most experienced suppliers of aircraft oil to leading domestic airlines. Sinclair has a long record of "firsts" in lubrication. As far back as 1923, the additive motor oil, Opaline F, was introduced for use in Model T Fords. The company also was the first to package motor oil in refinery-sealed containers.

Continuing as a pace-setter, in 1950 Sinclair developed

Sinclair Litholine, a new multi-purpose grease. In the field of premium heat treating lubricants, Sinclair introduced a new concept with the now widely used Sinclair Quenchoil 500 oils.

These are but a few of Sinclair's achievements which have given the company its leadership. More than \$100,000,000 invested over the past five years in new refinery facilities assure the quality of the products upon which this leadership is based.

# SINCLAIR

*A Great Name in Oil*

goods for oil. In 1956, the industry jacked up total capacity by 5-million tons to a new high of 133.4-million tons of ingots.

• **Going Ahead**—So, even in the first shock of the refusal of the tax write-off, Bethlehem, Inland, Republic, National, Pittsburgh, Granite City, and other producers have already admitted privately that they will go ahead anyway. U. S. Steel, with over \$500-million expansion already announced, has said that it will postpone some of its program.

Even Jones & Laughlin, probably the most disappointed of all, is expected eventually to go ahead with its \$250-million integral plant at Houston, though it hasn't yet decided how to handle the financing under the new conditions.

Adm. Ben Moreell, J&L's chairman, has been quoted as saying that the company will have to "reappraise" its plans for Texas in the light of Defense Mobilizer Arthur S. Flemming's rejection of fast amortization for the plant there.

Most steel sources think this means that J&L will have to fish around for new sources of money, but that it will find the money and build the plant.

• **Expansion Funds**—For all the companies, the question is where to find the money to keep on expanding. It's a wide open question, too. Each source of funds that's being discussed has faults as well as virtues:

Price increases are in the cards.

As one industry observer says, "The second round of price boosts is here." Last week Bethlehem boosted extras on structurals almost 4%, on plates almost 5%. Big Steel tacked about 1% on hot rolled strip; Lukens' rates for hot-rolled carbon plate are up 5%. Other steel producers raised extras an average 3%.

With costs up, demand roaring, and fast amortization out except for a real war emergency, the steel producers are likely to be less shy about raising prices. The trouble is, of every dollar added to earnings by this route the government will take about half in taxes, while both stockholders and labor will feel entitled to a cut, too. That makes it hard to pile up enough retained earnings to do much construction.

Issuing new stock may get a whirl, though most producers don't consider it a very good bet at current market prices. They have to sell too much of their company to get too little money. Stock splits, though, have already started; Lukens authorized a 3-for-1 deal last week. Armco also has announced an offer of new stock that is to be allocated to existing stockholders.

Borrowing offers scant attractions in

the tight money market. But it remains a possibility. Lukens has jumped its debt limit by 700%, to \$43-million. Big Steel remains a prime risk to lenders.

• **Financing by customers**. This is an old dog that may learn some new tricks. Lukens announced last week that it has a firm offer of a \$15-million loan from General Electric, which is a big buyer of its heavy plate and specialty forms. There has been a good deal of talk that J&L, bereaved of financing via fast amortization, might turn to the big, well-heeled oil companies that would be major customers of the Houston plant.

In Houston, though, this idea meets a lot of skepticism. Local steel people point out that if an oil company put up the money for a plant that might be five years away from production, it would at the same time be cutting off its supplies—or at least any preferred treatment—by its current suppliers.

Depreciation allowance is provided in the 1954 tax law—allowing write-off of two-thirds of cost in half the life of an item—is an inadequate stimulant for steel expansion, according to industry spokesmen. There's some talk that steelmen may try to needle Congress into liberalizing the provisions in the new tax law.

It's a slim hope at best, and steel may not want to stir up Congress—which already has at least two committees sniffing around at alleged industry collusion in setting prices. Anyway, the new Congress will be rather more likely to tighten than to loosen the tax laws.

Nevertheless, any play by the steel industry for tax relief takes on an urgency that might have been blunted if the fast write-off had been granted. U. S. Steel's statement on the turndown harks back to its long argument for basic tax relief.

"The fundamental solution," says the Corporation, "lies in the revision of depreciation allowances of the present tax laws to recognize the limitation that inflation imposes on the replacement of worn-out equipment."

• **Washington Rounds**—Even so, the fast write-off idea was kicked around in Washington long enough to give some steelmen a hope of favorable action. In the end, it was defeated by Treasury Secy. George Humphrey's reinforcement of Flemming's own feeling that it was wrong.

According to reports from the capital, Commerce Secy. Sinclair Weeks thought the idea "had merit," the Budget Bureau O.K.'d it, and the Interior Dept. was in favor of it. But the decision bounced around from Flemming's office to the full Defense Mobilization Board, which includes most Cabinet officers as well as Flem-

ming, and even to Pres. Eisenhower, who had conferred with Flemming the day before the decision was announced.

• **Clincher**—Insiders say Humphrey prevailed at the DMB meeting despite voices raised in favor of more tax help for steel. His ace of trumps was a letter from Deputy Defense Secy. Reuben B. Robertson, Jr., stating that new figures on emergency wartime military requirements for materials would probably show a lesser need. That's because of the new emphasis on fewer but more powerful weapons, the letter explained.

This letter knocked one of the props from under the fast amortization argument—that the nation's military needs required steel plant expansion. Humphrey, now joined by Flemming, argued that in case of war, civilian consumption of steel could be cut back enough to take care of the military. They said it would be discriminatory, and actually illegal, to use the fast write-off provision to help an industry whose market shortages are caused by expanding civilian needs.

Industry's argument that many so-called civilian products, such as steel for tankers and the tankers themselves, are defense-supporting was rejected by Flemming in two ways: on fast write-off and on a civilian materials allocation plan.

• **Humphrey View**—Secy. Humphrey opposed the fast write-off on both legal and philosophical grounds.

He has been outspoken in his dis-taste for the idea that a businessman could take a fast-amortization certificate to a moneylender as an aid in getting a line of credit. He believes fast write-offs apply only to plant and equipment that are already paid for. Moreover, he interprets the law to permit such dispensations only on capacity to produce military items. Business in general was helped enough by the 1954 tax law, he feels.

• **Remaining Goals**—Steel isn't the only industry that's affected by the decision against giving tax aid to production expansion. This avenue was closed last week for commercial aircraft, alkylate, heavy steel plates, titanium processing and melting, and taconite iron ore.

Still open are the production goals in chemical-grade chromite, battery and chemical-grade manganese, medical supplies and equipment, mercury, nickel, roll-on roll-off ships, selenium, steam boilers, steam turbines, steel castings, substitutes for strategic mica, ocean-going tankers, research and development laboratories, oil and gas pipelines, petroleum storage for defense programs, power and production facilities for defense and atomic energy, and scientific instruments.



Above: "Buffalo" Fans supply air for Socony-Mobil Building. Above right: Hundreds of power plants depend on "Buffalo" Draft Fans. Center: Radomes inflated by "Buffalo" E Blowers. Lower right: S.S. United States ventilated by "Buffalo" Fans.

## FAN-tas'tic adj. *Imaginary, unreal* ...Webster

The variety of jobs done by fans today might seem fantastic. Small "Buffalo" Type "E" Blowers inflating radomes to shelter radar in the Arctic. "Buffalo" Fans supplying all the air to ventilate the world's fastest ocean liner and the world's largest air conditioned office building. "Buffalo" Fans delivering tons of air at high temperatures and pressures for generating power. These are just four examples.

Every air job is different — yet all volume, pressure, temperature and installation requirements are met exactly by built-to-order "Buffalo" Fans.

80 years' experience, plus full engineering, testing and manufacturing facilities are your assurance of *every* air job well done when you call on "Buffalo" and its *complete* line of fans.



### BUFFALO FORGE COMPANY

BUFFALO, NEW YORK

Canadian Blower & Forge Co., Ltd., Kitchener, Ont.

VENTILATING AIR CLEANING AIR TEMPERING INDUCED DRAFT EXHAUSTING FORCED DRAFT COOLING HEATING PRESSURE BLOWING

# In Business

## Christmas Sales Finish Strong, Season Narrowly Tops 1955

Up to the very last it was touch and go—but by all accounts Christmas, 1956, beat its predecessor by a few percentage points.

As predicted, the last few shopping days told the story. For the week ended Dec. 22, with a "second Christmas Eve" on the following Monday, department store sales were 14% ahead of the 1955 period. And that gave the whole November-December shopping season a 2.2% lead.

In the big New York market, department stores had a 17% gain for the pre-Christmas week, which brought the all-of-December figure up to a 1% gain.

Even the late splurge didn't bring sales for the whole year up to trade expectations. Preliminary estimates put retail sales 3.5% above 1955, but that, in the light of price increases and inventory, was below the hopes.

## Standard of New Jersey Leads New Wave of Expansion Programs

The turn of the new year brought a spate of corporate expansion programs, topped by Standard Oil Co. (New Jersey), which announced record capital spending of \$14-billion for 1957.

Various utility companies also reported extensive plans. Pacific Gas & Electric expects to spend \$190-million on expansion this year; Consumers Power Co., of Jackson, Mich., will spend \$95-million; Florida Power Corp., nearly \$33.6-million; Delaware Power & Light, \$28-million; Atlantic City Electric Co., \$19-million.

For a longer haul, Philadelphia Electric raised its 1957-1961 spending plans to \$460-million.

Southwestern Bell Telephone reported it would spend \$115-million-plus for new equipment and buildings in Texas during 1957. And Ideal Cement Co. said work was starting at once on a \$14-million plant at Ada, Okla. Annual production will be 1.5-million bbl.

## Can't Agree on Who Owns Land But in Tune on Boosting Rentals

Last week the New York Central and New Haven railroads, which have been disagreeing off and on for 50 years over the ownership of some New York real estate, hid their bickering.

Together they sent a brochure to 500 prospective bidders, offering for lease an 844,000-sq. ft. plot on Park Avenue between 47th and 48th Streets.

The existing quadrangle of apartments assessed at \$2-million would be demolished, according to the brochure,

and would be replaced by at least a \$30-million, 30-story office building.

Behind the truce lies this basic disagreement: The Central claims it owns, directly or indirectly through subsidiaries, 17 real estate parcels that it operates in conjunction with the Grand Central Terminal. It further insists the New Haven does not have an interest in the ownership of these but only in the application of their net earnings to meet the deficit from operating the station. The New Haven disputes this, claiming partial ownership of the properties worth an estimated \$400-million.

In answer to inquiries, the Central admitted the two roads "have not resolved their differences with respect to the ownership of the real estate—they have agreed as a practical matter, though, that it is to the best advantage of both to increase the rental income."

## Business Briefs

Newsprint prices were boosted \$4 a ton effective Mar. 1 by Abitibi Power & Paper Co., bringing the basic New York price to \$134 a ton. Other major Canadian newsprint producers declined to say whether they would go along.

An immediate 5% increase in coach and first class passenger fares has been granted by ICC to all Western railroads and to eight major lines in the East. The agency also O.K.'d a 7% rise in Pullman and parlor car charges. It deferred action on the request by six of the Eastern roads for an additional 40% increase.

The Texas oil allowable for January has been set by the Railroad Commission at the same rate as December—3,421,058 bbl. a day, on a 16-day basis.

Chrysler Corp. will no longer assess its dealers for cooperative advertising; the sum will now be added to the price the dealers pay for cars. The Chrysler move follows in the wake of General Motors (BW—Dec.'56,p51).

California commercial bankers last week upset their own predictions by boosting the interest rate on savings deposits to the new ceiling of 3% effective Jan. 1 (BW—Dec.'56,p143).

"Fair trade" agreements with its retail dealers have been canceled, "reluctantly," by Eastman Kodak Co. This reverses a policy established 19 years ago; Eastman said legal defeats suffered by "fair trade" in 16 states have made it impractical to continue the arrangements.

Canadian rail service was crippled at midweek as firemen began walking off trains on the 17,000-mi. Canadian Pacific Ry. and two subsidiaries in a dispute over jobs on diesel engines. The walkout seemed likely to tie up the whole CPR, which is the sole rail transport in eight provinces.

The CAB has given Trans World Airlines permission to extend its service from Ceylon via Bangkok to Manila, where it can hook up with Northwest Airlines to provide an around-the-world service competing with Pan-American World Airways.

# Smart machine

Mind like a steel trap. Feed him enough raw data and he'll solve any problem. He's now working on a new concept of industrial economics. It might easily be called "*The Theory of the Leisure Mass*".

But it isn't just theory. Never before has there been such real pressure on industry for efficiency — efficiency which is necessary, first, to meet relentless wage increases, and secondly, to enable a company to compete on a profitable basis.

*No other machine tool builder in the world can equal Jones & Lamson's industry-wide experience in increasing efficiency with high-velocity metal turning and grinding equipment.*

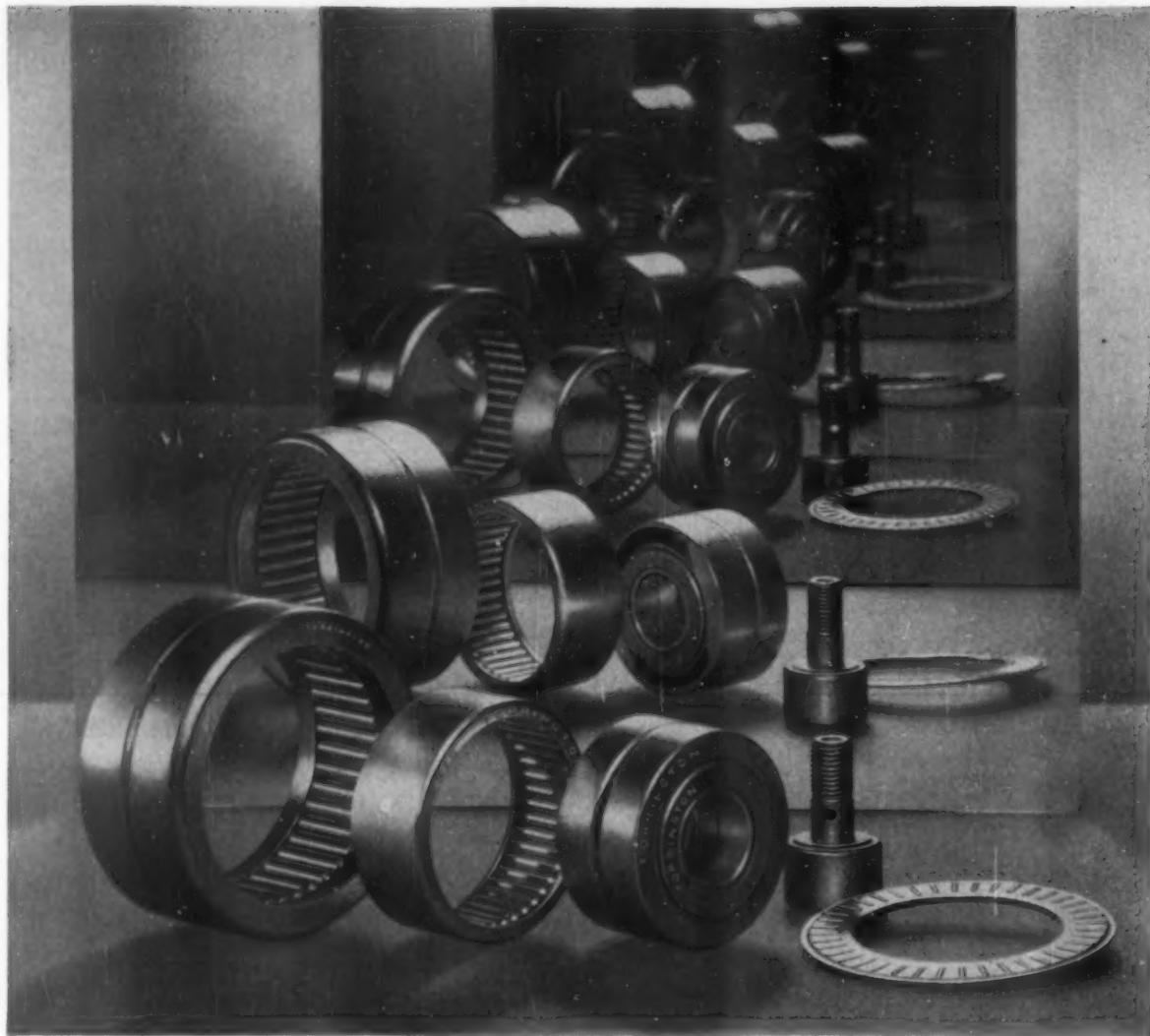


**the man who needs  
a new machine tool  
is already paying  
for it**



**JONES & LAMSON** MACHINE COMPANY • 503 CLINTON ST. • SPRINGFIELD, VT.

Turret Lathes • Fay Automatic Lathes • Milling & Centering Machines • Thread & Form Grinders • Optical Comparators • Threading Dies & Chasers



## For new perspectives in **NEEDLE BEARING** design and performance

... look to Torrington, pioneer in the development of every type of precision Needle Bearings.

Using carefully selected quality steels, and the most modern manufacturing methods, Torrington has developed a complete range of types and sizes of Needle Bearings for every use. There are special designs for rotation, for oscillation, even thrust applications! There are aircraft types, cam followers, and heavy duty types. Yet their unit cost is low, bringing anti-friction performance with economy.

Precision manufacture and the full complement

of rollers that provides maximum radial capacity in minimum cross section make Torrington Needle Bearings top performers in the most rugged applications.

Little wonder their use has spread to countless applications in every field with outstanding success. Have you considered them for your product? Send for further information today.

THE TORRINGTON COMPANY  
Torrington, Conn. • South Bend 21, Ind.

## **TORRINGTON BEARINGS**

Needle • Spherical Roller • Tapered Roller • Cylindrical Roller • Ball • Needle Rollers

# WASHINGTON OUTLOOK

WASHINGTON  
BUREAU  
JAN. 5, 1957

A BUSINESS WEEK



SERVICE

**Pres. Eisenhower's second-term programs and policies can be anticipated in advance of his formal messages to the new Congress over the next two weeks. The President has briefed House and Senate leaders of both parties and they in turn have passed along the highlights of what's ahead on both the home and foreign fronts. Here's a rundown of White House stands on issues of importance to business:**

— • —

**Government spending will continue to rise.** Prospect is that the new budget will schedule a \$71-billion-plus outlay for fiscal 1958, which starts July 1. That compares with this year's estimated \$69.1-billion.

**The budget will remain balanced.** The high level of business will yield enough revenue to cover the spending rise, with some surplus left over—perhaps \$1-billion.

**But there will be no general tax cut this year.** The surplus won't be big enough to permit a general cut without unbalancing the budget. You will hear lots of tax cut talk from the Democrats, but they won't make any real drive for legislation until 1958, a Congressional election year.

— • —

**Credit will remain tight.** The Administration regards this as the front line of its fight to keep price increases moderate, so it is not pressing the Federal Reserve for any easing up. The issue will be hot politically in the new Congress. The Administration will recognize the pinch in spots and will come up with special programs to help small business and GI home buyers get money.

— • —

**Congress will be asked to O.K. a big construction program,** with a large part of the financing to be provided by Washington through loans and grants.

**School aid will top the list.** Eisenhower will push hard for his program of federal assistance for school construction. The White House expects that the difficulties some states are having to raise school construction funds will increase Congress backing for this project. But the integration issue still may delay final action until next year.

**On homes for veterans,** the Administration will support an increase in the interest rate for GI financing from 4½% to 5%. And it will face a determined effort by the Democrats to substitute a huge program of direct government loans as a way to get around the pinch of so-called hard money.

— • —

**You will see a new fight on atomic power.** The Administration favors private development. The Democrats want public development—put the atom on the same basis as the big water developments of New Deal days.

— • —

**Higher postal rates will have a good chance.** Congress stalled this Administration program last year. The feeling among the big postal users is that action probably will come this year, with first class leading the way—rising from 3¢ to 4¢.

— • —

**Broadening of the Wage & Hour Law coverage will have a fairly good chance this year.** However, it won't take in all retail and service employees. There will be a cutoff—exemption for the smaller businesses.

# WASHINGTON OUTLOOK (Continued)

WASHINGTON  
BUREAU  
JAN. 5, 1957

**Supervision of union pension funds** will be a very live issue. Congress may end up by voting limited federal supervision.

**Aid to small business will be upped.** The push will be for more direct federal lending where small businesses can't get credit they need from regular lenders. The Administration will support legislation, and the Democrats will go along with it—probably try to be more liberal than the White House wants.

—•—

**Eisenhower will back a new corn program.** With Democratic support, he will push legislation to permit farmers to put more acres into corn than they can now and still qualify for government price supports.

**No new general farm legislation is in sight.** Democrats will raise a rumpus about higher price supports, but don't have the votes to put them over.

—•—

**A White House-Congress split will come on two issues—civil rights and foreign aid.** On both, the White House will be very insistent. Republicans won votes in industrial cities as a result of Eisenhower's policies on integration. They also got a bigger share of the Southern Negro vote. So civil rights will be pushed hard, against Southern Democratic opposition. In his second term, Eisenhower plans to fight even harder for peace. This will involve controversy in Congress over policy.

**No. 1 foreign policy issue will be power to use troops in the Middle East,** if this becomes necessary to stop Red aggression (page 31).

**Congress probably will go along, after bitter debate.** The old position of Eisenhower is that he won't use force abroad without Congress' O.K. What he wants now is a sort of blank-check authority to step in with force if he decides this is necessary to contain Russia. Democrats will call it a sort of "conditional declaration of war." But they probably will agree, in the end.

**Foreign aid will be voted.** The increase over this year's \$4.2-billion won't be great. The important thing will be the distribution of aid—more to the Middle East and Africa.

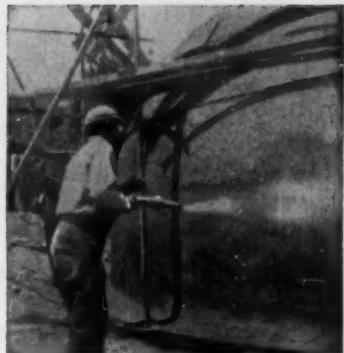
—•—

**Note the new faces in the Senate.** There are nine in all, with the count showing five Democrats and four Republicans. The shifts aren't enough to change the balance of power. The Senate will remain on the conservative side. But there will be new voices in the liberal column.

**The Democratic liberal bloc gets some reinforcement.** There's Joe Clark of Pennsylvania; Frank Church, Idaho, and John Carroll of Colorado. You will see them voting with the Humphreys and Douglasses on most issues. But Frank Lausche, the Ohio governor, and Herman Talmadge, former Georgia governor, will turn up more often in the conservative column.

**On the Republican side,** there's Chapman Revercomb of West Virginia, back after a defeat in 1948; John Sherman Cooper of Kentucky returns after a 1954 defeat; Thruston Morton of Kentucky, is a first-time Senate winner; so is Jacob Javits of New York. On most issues, these men will stand with Eisenhower.

# Mass building boom takes concrete shape with help of fabric!



Final spraying of concrete on pneumatic form

Inflate a balloon  
—cover it with wire mesh  
—spray with concrete—deflate  
the balloon and another building is  
complete. Time: 24 hours! That is the  
procedure currently being used to build  
low-cost permanent structures—for storage  
buildings, hangars, schools, homes and other  
enclosures—in many parts of the world. The huge  
pneumatic forms, made of rubberized nylon, are fabricated  
by the Aviation Products Division of Goodyear Tire and  
Rubber Company, in shapes which permit the erection of half-barrel,  
spherical, cylindrical, elongated and semi-spherical buildings,  
along with straight side-walls and rectangular floor plans.

Source for the nylon base fabric: Wellington Sears.  
Though the neoprene rubberizing hides the nylon fabric, Wellington Sears  
is proud to play this supporting role, as it does in so many other industries.

For over a century, Wellington Sears has provided fabrics of all kinds  
to industries of all kinds, helping them develop new products  
and processes, to improve established ones.

More than likely, this century of experience in industrial fabrics can be useful  
to you, in solving your fabric problem. Whatever it may be, if it involves  
natural or synthetic "working" fabrics of any kind, call on  
Wellington Sears. For informative booklet, "Fabrics Plus," write Dept. C-1.

## Wellington Sears

**FIRST In Fabrics For Industry**

For the Rubber, Plastics, Chemical, Metallurgical,  
Automotive, Marine and Many Other Industries



Wellington Sears Co., 65 Worth St., New York 13, N. Y. • Atlanta • Boston • Chicago • Dallas • Detroit • Los Angeles • Philadelphia • San Francisco • St. Louis



DOUGLAS

DC-8

PAN AMERICAN WORLD AIRWAYS

UNITED AIR LINES

DELTA AIR LINES

JAPAN AIR LINES CO., LTD.

## for the Douglas DC-8s...



When the new Douglas DC-8s are delivered to the major airlines, each plane will be equipped with a Sperry SP-30 Flight Control System — a precision system designed and engineered to meet the demanding requirements of multi-jet and turbo-prop aircraft.

### **Superior to all Previous Flight Control Systems**

From Sperry's broad, unparalleled experience in equipping thousands of commercial and military aircraft with flight control systems, Sperry engineers designed the SP-30 especially for high-speed, long-range aircraft. Operational needs of tomorrow's new transports were anticipated throughout the system design.

### **Excellent Performance in All Flight Conditions**

Precise automatic control of aircraft flying between landing and sonic speeds.

Accurate automatic navigation utilizing radio station facilities—but enabling pilot to monitor flight through integrated "pictorial" instruments.

*Close control in altitude, cruise and radio guidance modes.*

*Improved compass system gives accurate heading information even in polar regions.*

*Improvements in all-weather landing approach control.*

EASTERN AIR LINES

TRANS CANADA AIR LINES

SCANDINAVIAN AIRLINES SYSTEM

KLM ROYAL DUTCH AIRLINES

PANAGRA

NATIONAL AIRLINES

SWISS AIR TRANSPORT

the Sperry

# SP-30

## FLIGHT CONTROL SYSTEM

### **SP-30 Design is Compact, Reliable**

While all components are designed for maximum reliability, they are uniformly compact in size and minimum in weight. Among advanced techniques employed are redundant circuits, transistors and magnetic amplifiers which drive servo motors directly to assure an extremely reliable system. Plug-in components provide economy and ease of maintenance.

Sub-systems for each control axis (rudder, elevator and ailerons) are self-contained and also serve as damping devices to aid pilot during manual control. Monitors on each axis automatically guard against malfunctions.

### **Supported by World-Wide Field Service**

Airlines specifying the SP-30 are assured of Sperry's continuous support through its experienced staff of field service engineers stationed at major terminals.

Write for the complete story of the advantages of the SP-30 system to our Aeronautical Equipment Division.

**SPERRY** GYROSCOPE COMPANY

Great Neck, New York

DIVISION OF SPERRY RAND CORPORATION

Cleveland • New Orleans • Los Angeles • Seattle • San Francisco  
In Canada: Sperry Gyroscope Company of Canada, Ltd., Montreal, Quebec

# From Hungary's Terror Skilled Hands for U.S.



LANDING at Maguire Air Force Base, Hungarian escapees are met by Mrs. Ruth Tropin of Intergovernmental Committee—which saw them off in Europe, too.

The hurly-burly of an emergency refugee processing center, with scratchy pens endlessly filling out forms, and tired and irritable children passing in review before clicking cameras, might be the last place you would think of looking for an answer to the growing shortage of labor skills in the U.S.

But somewhat to the amazement of processing officials, the flood of Hungarian refugees into the hastily refurbished U.S. receiving center at Camp Kilmer, N.J. (pictures), is turning up an increasing number of skilled workers able to take their place fairly quickly on the production lines of U.S. factories.

- Stream—Up to now, more than 20,000 of the refugees, fleeing their Soviet-occupied country, have poured into Kilmer in search of freedom, new homes, and new jobs in the U.S. In a single day a couple of weeks ago, 14 flights brought 917 escapees to nearby Maguire Air Force Base. Until the pressure slackens, a daily average of 500 will be landing there—with 5,000 more due from Bremerhaven on three Navy transports.

With the U.S. on the verge of fulfilling its first commitment—to take



Interviews, to complete screening



PHYSICAL checkup by Army doctor looks for any contagious diseases.

SNAPSHOT taken by Army goes on the refugee's temporary entry permit.





begun in Europe and learn job skills of refugees, are wearisome—but time has been cut to the minimum.



BILLETS are final stop after visit to private sponsoring agency; refugee quarters have now spilled into main part of Camp Kilmer.

There's a lot of waiting before a Hungarian who dodged past Soviet tanks

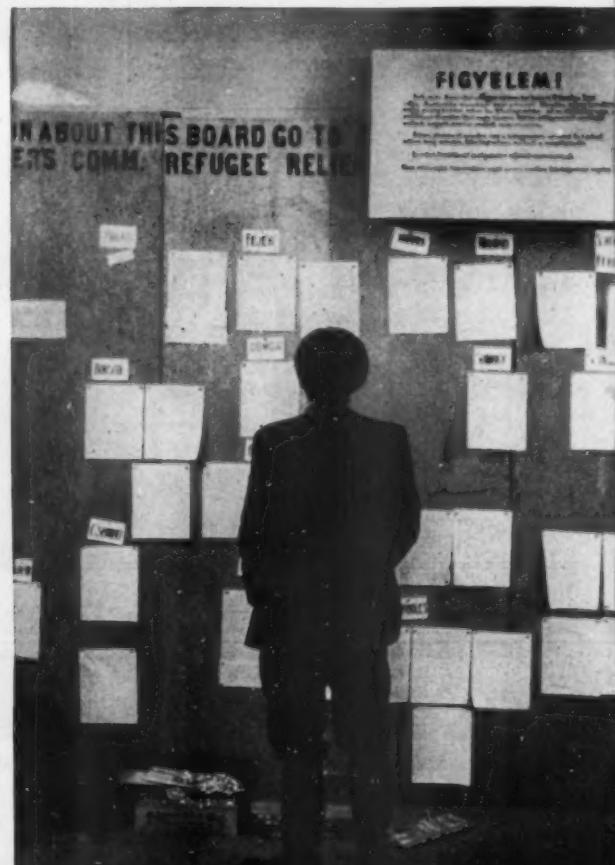


BUS STOP—Waiting for bus to go to Camp Kilmer billets is letdown after days of excitement; even toys from home are neglected.



TRYING OUT American cigarettes, and getting an earful of popular American music on car radios help to pass time.

LOCATING FRIENDS who have already passed through Kilmer and left messages helps newcomers to feel at home.



at home finds his new job in U. S.  
(STORY starts on page 46)

21,500 refugees—the White House began this week to lay the groundwork for a substantial increase in that number, perhaps to 35,000 or even 50,000. As preparation for this, Pres. Eisenhower ordered the Immigration Service to continue processing applicants.

The incoming stream, as it reaches flood level, has changed in character. Early escapees arriving in the U. S. were largely students and professionals. Now the daily flights are crowded with engineers, radio technicians, machinists, locksmiths, lathe operators, workmen with many other skills—and Kilmer authorities expect these skilled industrial groups to be in the foreground from here on out.

As a result, St. Louis and Brockton are already getting some trained shoemakers, Milwaukee has new molders and packinghouse employees, and highly skilled tool workers are going to New England machine shops.

• **Key Figure**—That focuses even more sharply than before on the part U. S. industry is playing in the operation—and on the complex mechanism that matches up refugee skills with employer needs.

The U. S. employer looms up as a key figure in the whole U. S. phase of the Hungarian refugee resettlement process for several reasons:

• Because of the emergency nature and speed of the operation, these refugees do not—as is usually the procedure under the Refugee-Relief Act—have specific jobs before they are admitted to the U. S. But the government must be satisfied that they won't become public charges. So private refugee agencies sponsoring refugees have guaranteed to the government that they will find the necessary jobs.

• U. S. industry, desiring to do its part in helping the Hungarian people, has sent in to these agencies requests for almost every conceivable kind of worker and professional man.

What was perhaps unexpected when the operation started was the high percentage of industrial skills that would be available. To many employers, plagued by shortages of key skills, some of the new Hungarian arrivals help fill a serious gap.

• **Part of the Whole**—The refugee stream reaching Camp Kilmer, of course, is only a small part of the swarm of more than 156,000 Hungarians who have crawled, stumbled, and swum across the border into Austria. But the U. S. is making no attempt to pick any particular type of workers or to skim the cream of the refugee group.

Tracy S. Voorhees, Pres. Eisen-

# 1000 ways

## to cut costs



### with fiber board

### parts and cut-outs

Upson fiber board is *not* a soft insulation board. Neither is it a hard board. Rather, it is an "in-between" board, composed of 94% wood fibers laminated for superior strength. It is tough, yet resilient, with superior finishing and sound deadening qualities. We manufacture it and precision-cut it to specified shapes. We punch it, bevel it, die cut it, waterproof it and apply special finishes; delivering the finished part ready for production. Choice of widths, lengths, thicknesses and surface textures. Tell us your problem. *Fiber board* with our specialized engineering and cutting service could be your answer. *Send this coupon for booklet of uses and samples.*



**UPSON**  
94% WOOD FIBERS LAMINATED FOR GREAT STRENGTH

THE UPSON COMPANY, 231 UPSON POINT, LOCKPORT, NEW YORK

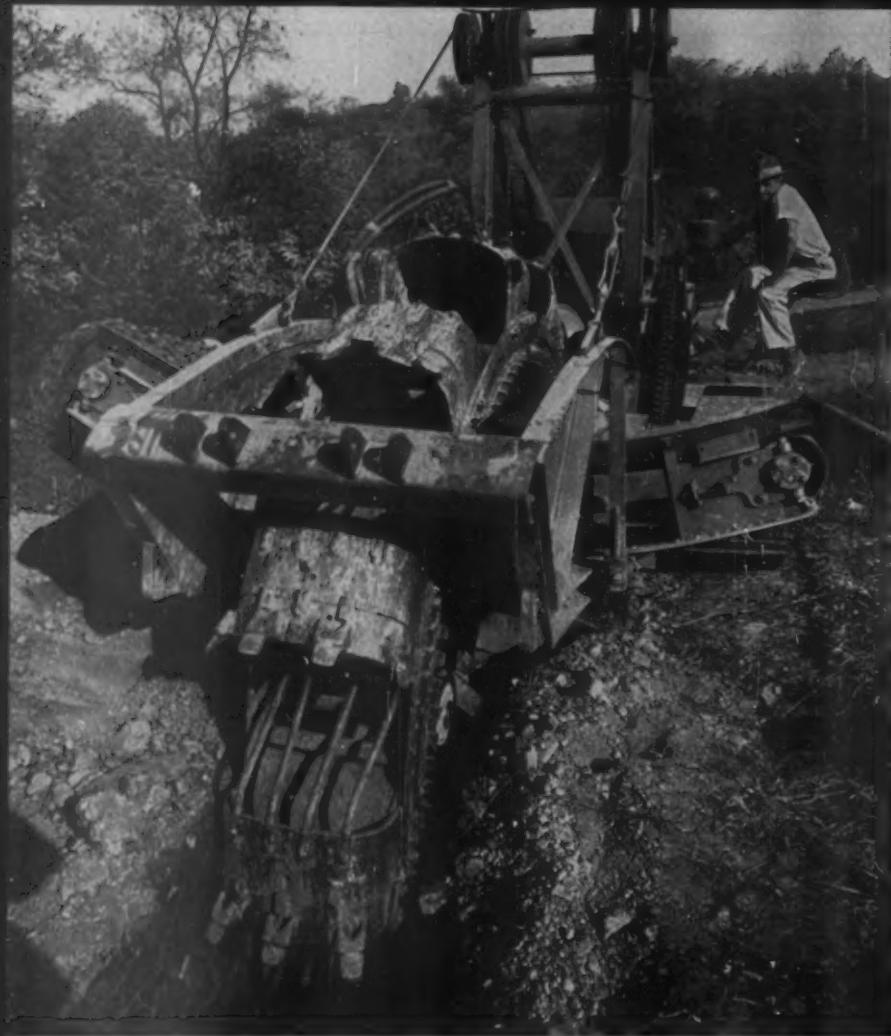
Please send me the Upson  
FREE Idea Book, "1000  
Ways to cut costs and Im-  
prove Quality with Upson  
Fiber Panels and Cut-  
Outs", and Sample Kit.

Name \_\_\_\_\_

Position \_\_\_\_\_

Name of Company \_\_\_\_\_

Street \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_



## Getting down to profits

Width and depth of cut is one way to compare ditchers, but it's *not* the way to compare ditching profits! To get down to profits you have to check machine efficiency . . . find out if the power you pay for actually gets to the digging wheel. Here's what you'll find when you check Gar Wood - Buckeye ditchers:

In Buckeye machines, power for traction and digging is taken directly from the engine transmission through separate output shafts. There's no open jack-shaft to waste power, eat up fuel dollars. There's less power lost to friction because all Buckeye shafts turn on anti-friction bearings . . . all Buckeye gears run in oil. The result is more power where it pays . . . at the digging wheel. And that means more ditch at less cost.

Width and depth of cut? You'll find a size and type of dumper in the Gar Wood-Buckeye line to meet your exact requirements. Check further and you'll find design differences that will mean more ditching profits. In every way you'll see that Gar Wood gives you more to bank on!

### GAR WOOD INDUSTRIES, INC.

Wayne, Michigan • Findlay, Ohio

Plants in Wayne and Ypsilanti, Mich.; Findlay, Ohio; Mattoon, Ill.; Richmond, Calif.



Truck Cranes



Tractor Equipment



Frore-Gates



Load-Packers



Hoists & Bodies



Ditchers

hower's personal representative on refugee problems, says, "Not what they can do or what their past experience has been, but whether they want to come to the U.S. is the consideration. This is our program—justice to the refugees in a humanitarian undertaking."

The Administration's original plan for taking 21,500 refugees called for admitting 6,500 under the Refugee Relief Act, and another 15,000 under the emergency provisions of the McCarran-Walter Immigration Act. These latter are so-called "parolees" (though because of the bad connotations of that word, officials prefer to call the Hungarians "EMADS" or "emergency admissions").

Actually, there is no limit in the law to the number the President may admit under this provision, which was designed for just such an emergency. But there is one hitch—such "parolees" are mere guests of the nation, for an indefinite period, and cannot even apply for citizenship. Pres. Eisenhower is counting on Congress to endow the 15,000, and any others who may later be admitted under the provision, with "permanent status"—which would merely mean that after five years they could apply for citizenship. Though some opposition has cropped up, the odds are that Congress will go along.

• **Matching Up**—The process of matching up skills and jobs also begins well before the refugees arrive at Kilmer.

Six private relief agencies are involved in the work of sponsoring and placing the escapees. They are: the National Catholic Welfare Conference, Church World Service, United HIAS Service, Lutheran Refugee Service, International Rescue Committee, and Tolstoy Foundation.

Coordinating refugee movements is an international agency—the Intergovernmental Committee for European Migration—which is supported by 27 member nations, and so far has moved out of Austria more than 88,000 of the 156,000 Hungarians who made the break for freedom.

In the U.S., Voorhees took over a couple of weeks ago as head of the newly formed President's Committee on Hungarian Refugee Relief. Aided by retired Gen. J. Lawton Collins, he will be operating chairman of the group, made up of representatives of the private organizations most actively engaged in the relocation work.

• **At Both Ends**—To speed the matching-up process, the U.S. Labor Dept. is tackling the job from the refugee worker's angle at both ends of the airlift. The department's Bureau of Employment Security has a team in Vienna to classify the refugees by occupation and training before they leave Europe. On the boats bringing

**"Another building  
of ALCOA  
ALUMINUM**

**...for Vinegar Production  
at the Home of Heinz  
Famous 57 Varieties"**

Gleaming in its bright walls of glass and aluminum, this H. J. Heinz Building, Pittsburgh, Pa., sets a new pattern for industrial construction. Alcoa® Aluminum paid off from the day ground was first broken in this recently completed building for Heinz Vinegars.

Because aluminum is light, foundations were less costly. Wall sections were largely prefabricated and set in place without expensive scaffolding and with less labor. The building was enclosed sooner, so interior work could be speedily completed. Production was started sooner.

Aluminum is particularly suitable for plant exteriors because of its resistance to the corrosive effects of industrial atmospheres.

The H. J. Heinz Building, both attractive and practical, is typical of what can be done today with aluminum. It is an extension of the concept first applied in Alcoa's towering skyscraper and now seen in hundreds of other commercial and industrial buildings.

If you are considering new construction, it will pay you to consult Alcoa . . . your best and most experienced source for information on architectural applications of aluminum. Write ALUMINUM COMPANY OF AMERICA, 1889-M Alcoa Building, Pittsburgh 19, Pa.

Architect: Skidmore, Owings & Merrill  
General Contractor: George A. Fuller Company  
Subcontractor-Aluminum: E. K. Geyer Company



**THE ALCOA HOUR**  
Television's Finest Live Drama  
Alternate Sunday Evenings



**Your Guide to the Best in Aluminum Value**



## Automation Gaging

**THE NEW APPROACH TO HIGHER ACCURACY AT LOWER COST** — Pratt & Whitney Automation Gaging Systems have been successfully applied to a wide variety of machines for both parts and continuous production. In a typical installation . . . an automatic dual boring machine producing precision small parts . . . P&W Gage Heads check the workpieces as they are machined. Gage impulses, fed back to the machine, are used to re-set the cutting tools automatically *before* required tolerances are exceeded. Results: Accuracy is held to .0003" at the very high output rate of 120 pieces per hour. Reject losses are practically eliminated!

Write for more information  
 Pratt & Whitney Company, Incorporated,  
 41 Charter Oak Boulevard,  
 West Hartford, Connecticut



GAGE BLOCKS . . . STANDARD MEASURING MACHINES . . . SUPERMICROMETERS . . . COMPARATORS  
 CONVENTIONAL GAGES . . . THREAD COMPARATORS . . . AUTOMATION AND CONTINUOUS GAGES



**PRATT & WHITNEY**  
 FIRST CHOICE FOR ACCURACY  
 MACHINE TOOLS • GAGES • CUTTING TOOLS

Hungarians from Bremerhaven, BES men, drawn from its local offices, also interview refugees to find out where they will best fit.

At Kilmer, Fred Schoenborn heads up a Labor Dept. processing center already hard at work, trying to determine in as short a time as possible just how much experience and knowhow there is behind the phrase "skilled pattern maker" or "machinist" that an incoming refugee has entered on his card.

From the opposite standpoint, that of U. S. employer needs, local public employment offices affiliated with the U. S. Employment Service are working with local relief agencies in many places to let employers know what's going on and to dig up the available jobs. In Kansas, for example, many newspapers carried an appeal by the state employment service, urging employers to step forward with job offers.

Lists of job openings are culled in this way, and from the many direct requests made by employers to one of the national private agencies handling the refugee work, or to Washington. One Minnesota businessman, Jeno Paulucci, telegraphed to the White House a proposal, requiring a housing and land clearing subsidy, for using refugees in converting cut-over Minnesota timberland into truck gardens.

• **Meet Your New Boss**—The job-matching process comes to a climax at Kilmer, where the private agencies keep detailed files of job openings to balance against the experience of the refugees.

Sometimes it happens that, say, a highly skilled Budapest machine tool worker right off the plane turns out to be just the man a Hartford machine shop has been scouring the country to get. Within a few hours after he first sloshes through the Kilmer mud to the processing office, he will find himself on a train for Hartford. There he'll find his new employer waiting for him, usually accompanied by a representative of the agency that's sponsoring him—and almost inevitably accompanied by an interpreter, as sign language sometimes doesn't quite do the trick in such a case, particularly if the refugee has a family along with him that has to be fed and located in a new home.

Other refugees may have to make the best of the drab, unsightly surroundings of Kilmer for several days—the length of the stay depending largely on the demand for their particular skills.

• **Where They Go**—Milwaukee, with its large population of German, Polish, and Hungarian origin or descent, had taken by last week about 150 refugees—of whom 73 flew directly from Vienna to Milwaukee without the Kilmer stop-over. It's the only city that has made this direct approach.

Voorhees would like to see the Hungarians absorbed on a fairly propor-

# How **SPECIFICATION** **ADHESIVES**

help safeguard the famous

foaming action of

## AJAX CLEANSER



The difference between run-of-mine adhesives and *specification adhesives* is very small—if measured in money; very great—if measured in results.

A case in point—the packaging of Ajax Cleanser.

The cleansing power of this product is the result of both chemical and physical action. To insure its performance, Ajax must be delivered to the consumer in perfect condition—with extra protection against moisture.

The Ajax canister is a particularly fine example of modern packaging. The outside canister lining serves as a water-resistant barrier, protecting the contents. It was achieved through a combination of special design, modern packaging materials, methods and machinery. Plus *specification adhesives*.

The adhesives were specification-formulated to meet exacting requirements—in terms of the product itself, as well as of the particular materials, methods and machinery with which the adhesives would be associated.

\* \* \*

Adhesives can be specification-formulated for strength, for moisture-resistance, for packing in ice, for extreme aridity, for use on specific machines in rooms of any given humidity, for almost any sensible precaution. Whatever the particular requirements of your product, whatever your packaging and shipping methods, we invite the opportunity to present the case for.....  
*specification adhesives*.



The adhesives you use are the least costly of all your packaging materials. They constitute a very small percentage of your total cost of packaging. Now add this fact—the finest adhesives, made to exacting specifications for each particular application, cost (per thousand packages) only fractions of pennies more than do run-of-mine adhesives. Every time a specification adhesive helps you to deliver one more package in perfect and good-looking condition, it has saved you many times its cost—measured in terms of just one unhappy consumer.

We operate in the belief that there is only one "best" adhesives formula for each particular application. Supporting this belief is the fact that more than 10,000 adhesives formulas have been worked out in our laboratories—in the service to our cus-

tomers. Today we serve the leaders in a hundred industries—and thousands of small users.

We would like to submit samples of specification-formulated adhesives for you to test in your own plant—under your particular working conditions—until you find the formula that best meets each of your requirements. That is the one kind of testing that assures you of continuously satisfactory results.

If we convince your factory executives, you will then find added comfort in the fact that fourteen Arabol plants and warehouses—and the facilities of four laboratories—are at your service. If weather or economic conditions ever threaten the operation of the plant or warehouse serving you, your adhesives will be supplied—to the same exacting specifications—from the next nearest point.

Your inquiry on "Specification Adhesives" will bring a prompt response.

**ARABOL**  
71 YEARS OF  
PIONEERING IN THE  
MAKING OF ADHESIVES

**THE ARABOL MFG. CO.**

... a nationwide organization  
serving major users of industrial adhesives

**EXECUTIVE OFFICES:**

110 East 42nd Street, New York 17, N. Y.

CHICAGO • SAN FRANCISCO • LOS ANGELES  
ST. LOUIS • ATLANTA • PHILADELPHIA • BOSTON  
PORTLAND, Ore. • ITASCA and McALLEN, Tex.  
CINCINNATI • DENVER • TAMPA • LONDON, Eng.

# New TOLEDO Weight Data Systems

Originating, Transmitting, Processing, Recording



## Digital Weights Transmitted Anywhere

- .... Adding Machine
- .... Electric Typewriter
- .... Tape Punch
- .... Card Punch
- .... Digital Indication

Toledos now provide electronic wings for your weights! A great time-saver combined with Toledo accuracy! Even though the weights originate in production, inspection, testing, shipping or receiving, the weight data travels instantly for remote digital recording in the form you want it. This new forward step brings a closer than ever link between good weight control and high accuracy in accounting records.



## Dial location wherever you choose with Electronic Toledos

A new type of Toledo—the Electronic Load Cell Scale—eliminates mechanical connections between platform and scale head. This gives new flexibility to testing as well as weighing applications. Dial head can be located wherever desired. Also, the weight data can be processed in a variety of recorders and office machines. Ideal for many dynamometer, motor truck, hopper and custom test device applications.



## Batching in Automatic Interlocked Systems

This Toledo cabinet interlocks 22 scales in an automatic batching system. Through TOLEDOmation all ingredients are fed into successive batches in proper sequence, including operation of gates and feeders. In addition, all dials are automatically scanned and the digital weight data is recorded on an electric typewriter for each batch.



## Automatic Bulk Weighing

You get printed and totalized weight records instantly—on a remote electronic adding machine—with this Toledo Automatic weighing, recording and totalizing system. Its job is to keep cost-control tab on bulk material such as flour going into truck or carload shipments.



## Product Testing and Sorting

Toledos today automatically check and classify a wide range of parts. Here leaf springs for autos are tested and classified automatically by this custom-engineered Toledo at the rate of 600 an hour!

tionate geographic basis throughout the country—possibly through committees working under the various governors. But he doesn't see this as a practical possibility. As it is, one of the principal aims of the Labor Dept. job classifications is to make sure that shoemakers get to Brockton or St. Louis and appliance makers to industrial centers where their experience will be useful.

- **Surprise**—Some pleasant surprises that U.S. employers are getting in the refugee reshuffle may be due to one aspect of Soviet labor policy toward the labor force in satellite countries.

In these Red-held nations, the plan for forced industrialization that was tried right after the war took many youths into factories instead of schools. When the first refugee groups came through the mill at Kilmer, processing officials were amazed—and a bit skeptical at first—at the number of Hungarians who listed their occupations as machinists, carpenters, and other skilled craftsmen.

But the officials soon found out that, although a refugee might be only 26, his head was full not of the theoretical knowledge learned at school but of the accumulation of 10 years of factory experience—since he had begun his apprenticeship at 16. In one case, a factory worker turned out to be a former air force officer who had bucked the Communists and been downgraded to the factory.

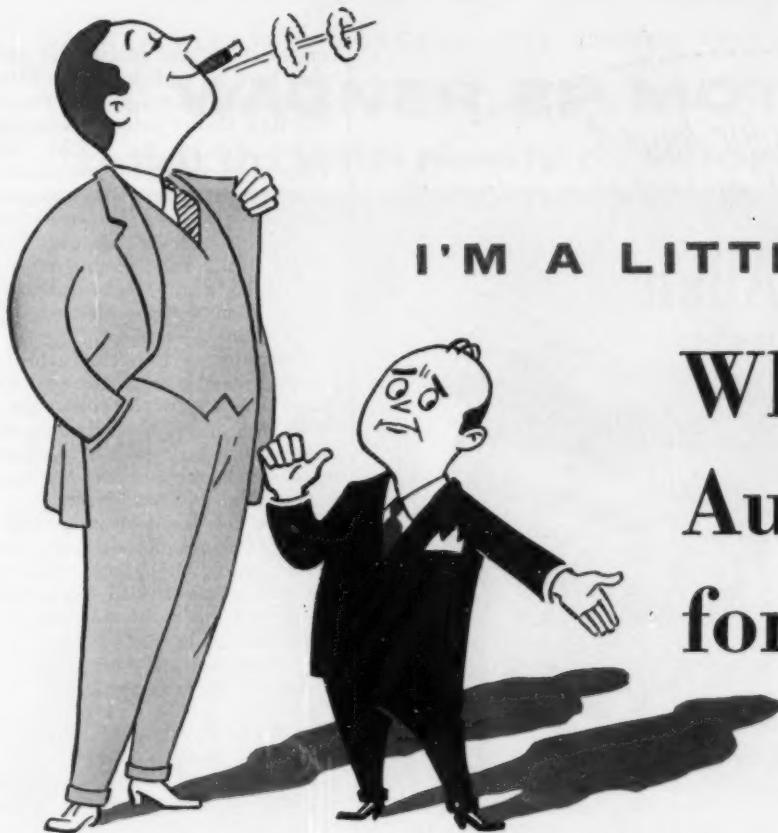
As the refugee groups follow one another, the proportion of workers—including the skilled and semi-skilled—to students and intellectuals is growing. And though the Hungarian refugee influx won't solve the problem of shortage of skills in the U.S., at least some fortunate employers are finding the refugees a godsend.

- **Headaches**—Of course, not all the refugees will turn out to have the inventive or technical genius of the Michael Pupins or Charles Steinmetzes of an earlier immigration wave—and some may even prove to be misfits in their new jobs, or rolling stones. A few have already said they'd like to go back to Hungary if the outlook brightens at home. But companies that have hired refugees under the Refugee Relief Act prior to the Hungarian revolution report generally good results, and there's no reason to expect any change in this.

Nor can such a quickly developed and somewhat makeshift emergency setup run with machine-like precision. There'll always be such incidents as that of the harried, non-Hungarian-speaking bus driver who shepherded a busload of non-English-speaking refugees from Boston—where a heavy fog deposited their plane—on a night trip to Kilmer, foraging food for them along the way.

And you couldn't expect complete smoothness with the myriad private

**TOLEDO®**  
HEADQUARTERS FOR SCALES



I'M A LITTLE GUY-

# What's in Automation for me?

Depends on what you mean by automation. If you think of automation as a "push-button controlled automatic factory" the cost is probably beyond the means of the "small" manufacturer.

*But if you think of it in terms of getting the most production at the least cost from the machines you have—then:*

Your Bellows Field Engineer can show you ways by which, for a small investment in time and money, you can convert many of your present machines into high producing semi-automatic or automatic machines.

It doesn't matter what you make—how big or small your operation—you'll find Bellows "Controlled-Air-Power" Devices will pay for themselves quickly—often before the due date of the invoice we'll send you.

#### WRITE FOR THIS BOOKLET—

the quick story of what Bellows can do for you.  
Address: The Bellows Co., Akron 9, Ohio, Dept. BW-157.  
In Canada: Bellows Pneumatic Devices of Canada Ltd.,  
Toronto, Ont.

7358



**The Bellows Co.**  
AKRON 9, OHIO

MANUFACTURERS OF AIR POWERED WORK UNITS: AIR MOTORS, AIR CYLINDERS, AIR HYDRAULIC CONTROLS, WORK AND TOOL FEEDING AND HOLDING DEVICES. FIELD ENGINEER OFFICES IN ALL PRINCIPAL CITIES AND INDUSTRIAL AREAS IN THE UNITED STATES AND CANADA.

*'I've got a color-keyed typewriter...and I picked the colors*



**R.C. Allen**  
VISOMATIC



**21 COLOR COMBINATIONS  
TO HARMONIZE WITH ANY OFFICE**

R. C. Allen leads the way in the modern trend toward more color and bright surroundings to increase office efficiency and raise morale. For 1957, the R. C. Allen Visomatic Typewriters are available in 21 color-keyed combinations and with other new and exclusive R. C. Allen features . . . including a new Hi-Speed touch with only half the typing effort; visible and automatic margins . . . "see it, set it, forget it." Your choice of fabric

or carbon ribbon, type styles and carriage widths—11" to 26". See the new R. C. Allen Visomatic Typewriters . . . with color combinations to make your office more modern, more efficient. Ask your R. C. Allen dealer to demonstrate the new Visomatic . . . and show you a color combination to match or harmonize with your office decor.



**R. C. ALLEN  
16-KEY ADDING MACHINE**

Exclusive Memory and Recall Keys save time and motion, avoid errors by restoring and correcting without re-indexing. Simplifies payroll computations, holds any figure until re-called. Automatic step-over multiplication with positive back-space correction key. Single-double-triple cipher keys. Also R. C. Allen full-keyboard machines, manual or electric, 6 to 13 column capacity.



**R. C. ALLEN  
4-TOTAL  
CASH REGISTER**

The R. C. Allen Model 355 has 4 departmental totals and a grand total. It issues receipts; records transactions on autographic detail tape; prints "Read" total at any time; does miscellaneous addition. It's the machine-of-many jobs yet costs far less than other machines without these features.

*Look first to*

**R.C. Allen**  
Business Machines, Inc.

660 Front Avenue, N.W., Grand Rapids, Michigan

*for every business machine purpose*

Typewriters • Adding Machines • Bookkeeping Machines • Cash Registers • Safes and Insulated Files

organizations and government agencies that have to work together. There are the private relief agencies, the Army, the Red Cross, various Hungarian religious agencies, the ICEM, the Air Force, commercial bus companies, and many others. Among U.S. government agencies, all these are somewhere in the act: the Budget Bureau, Defense Dept., Justice Dept., Immigration Service, Public Health Service, International Cooperation Administration, State Dept., and Labor Dept.

Processing of the refugees en route to their new homes and jobs, too, is more than a matter of sifting out their skills. Two initial steps, covering health and politics, take place in Austria—any with contagious diseases, and possible Communists or neo-Nazis must be screened out. But total processing time here by customs officials, Army medical teams, immigration, labor, and other government agencies has been pared to about one hour. In contrast, regular procedure under the Refugee Relief Act sometimes takes two years for an immigrant to enter the U.S.

With the necessarily hasty processing, officials in Washington concede that there is a potential security problem. It's possible for some Communists to slip through, they admit, but "we don't think there are any espionage agents," and the eventual location of each refugee will be known. So far, no refugee cleared in Europe has been detained in the second screening at Camp Kilmer; but several hopefuls have been rejected in Austria—including a man deported by the U.S. to Yugoslavia in 1949 for rape and robbery.

• **Hurdle**—Perhaps the biggest stumbling block for refugees in their new jobs—and for their employers—is the language barrier. But most companies, playing by ear, have jumped the hurdle by using a little imagination.

A Chicago steel warehousing company, Joseph T. Ryerson & Son, Inc., with many displaced persons on its payrolls, has worked out a deal with the Chicago board of education to hold English classes at the plant.

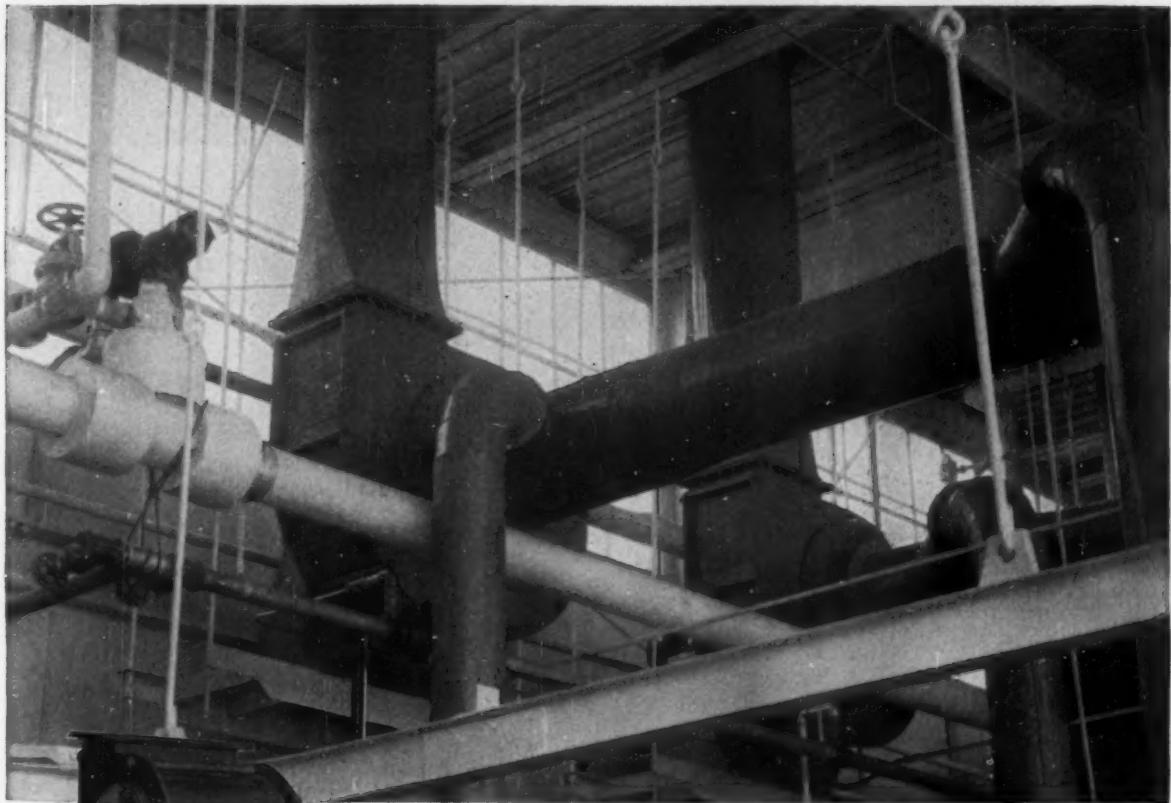
Others have used a more informal approach. This is perhaps easier in Milwaukee, where German and Hungarian are fairly common tongues (many who arrive from Hungary can speak some German).

Allis-Chalmers Mfg. Co. used a foreman who speaks English and German to instruct two refugee molder helpers it hired. Strauss Bros. Packing Co., however, took to sign language to communicate with a butcher and his son now working in its plant. Harnischfeger Corp. had a relatively easy time when it hired a turret lathe trainee with mechanical training in Hungary—it had only to turn to an employee who came from Hungary two years ago. **END**

WAGNER ELECTRIC MOTORS...THE CHOICE OF LEADERS IN INDUSTRY

## WAGNER EP MOTORS

team up with newly developed blowers



Eleven IPF plastic blowers, equipped with Wagner EP Motors, are installed in a plating room at the Scintilla Division of Bendix Aviation Corporation, Sidney, New York. Type EP Motors are available in ratings from 1 to 250 hp.

### Provide the answer to trouble-free expulsion of corrosive fumes in plating process

Expelling corrosive fumes and gases has been a tough problem for industry. Now, a new all plastic blower, developed by Industrial Plastic Fabricators, Inc., withstands most chemical fumes and gases from 40°F to 140°F at blower inlet.

But such blowers should have corrosion-resistant motors to drive them. That's why Wagner Type EP Motors were chosen in the IPF blower installation shown above. These motors are fully protected against corrosive fumes and liquids, dust, dirt and moisture. Such protection is assured by totally enclosed, fan-cooled construction in corrosion-resistant cast iron frames.

Full information and principal dimensions of these motors are given in Wagner Bulletin MU-203. Write for your file copy. Your nearby Wagner engineer can help you select the right motor for your applications. Call the nearest of our 32 branch offices, or write us.

WH37-2

BRANCHES AND DISTRIBUTORS IN ALL PRINCIPAL CITIES

Wagner Electric Corporation  
6460 Plymouth Ave., St. Louis 14, Mo., U.S.A.

ELECTRIC MOTORS • TRANSFORMERS • INDUSTRIAL BRAKES • AUTOMOTIVE BRAKE SYSTEMS—AIR AND HYDRAULIC

**REGIONS**



These new buildings rising out of former slums in Chicago are being erected by an insurance company. It's an example of how private capital is helping as the U. S. is . . .

## Beginning to Attack Slums

The new buildings you see here occupy ground formerly covered by slum dwellings crowded together alongside Lake Michigan in Chicago. The Lake Meadows project will provide 2,000 new units. Several of the apartment houses already have been completed; others still are under construction. The 100-acre project also includes a modern shopping center, and will have a community house, swimming pool, tennis courts, and a park.

This slum clearance project is one of hundreds planned or under construction in cities throughout the country. It was started in 1949, the year the federal government undertook a program to help communities with the formidable task of erasing slums. But the whole program is moving slowly.

• **Private Contribution**—Although most people think slum clearance means tearing down old buildings and replacing them with publicly financed, low-rent apartments, the bulk of the money going into the projects like Lake Meadows is private capital. And the rents are priced for middle-income families.

Even before the federal program was established, a few communities realized that the only way to rid their cities of slums was to enlist the help of private enterprise. They were willing to offer some financial inducement. After all, slums yield low taxes, and eat up a disproportionate share of a city's revenues for police, fire, and health services. But the major contribution in rebuilding would have to come from private developers.

• **Stimulus**—Congress sympathized with these aims and set up the urban renewal program as an instrument to stimulate private interest and investment in a broad onslaught on slums. Under the program, the money put up by the federal government through the Urban Renewal Administration and by municipalities amounts to only about one-fifth of total project costs. Public funds are used for acquiring and clearing slum land and providing public improvements such as new streets and parks. All building costs are borne by the private developers, who might construct apartments, commercial buildings, or industrial plants. The actual projects must fit in with the city's broad redevelopment plans. But the city exercises no control over projects once they are completed.

• **Rehabilitation**—Originally, the URA



1949 is the year demolition work began for Chicago's Lake Meadows slum clearance project. Area was and still will be predominantly inhabited by Negroes.



TODAY several of the residential buildings have been completed. The rents average about \$30 a room, more than many dislocated slum dwellers can pay.



## SHOPPING CENTER

located in the Lake Meadows redevelopment project cost an estimated \$2-million to construct.

## MODEL APARTMENT

in one of residential buildings emphasizes project's middle-income character.



## (Story starts on page 58)

program covered only slum clearance. But in 1954, it was broadened to include rehabilitation work in neighborhoods pock-marked by slum buildings but where most of the other structures were good or could be repaired. Here public money goes for public improvements, not for the actual repair work. But property owners are encouraged to fix up their buildings and are eligible for Federal Housing Administration insured loans to do this.

URA also makes loans to cities so they can start to work out broad redevelopment plans. The grants it makes cover two-thirds of the loss involved when the city buys up slum property, clears it, and resells it to a private developer at a reduced price. The city puts up the other third, either in cash or public improvements.

• **Difference in Value**—The fact that the value of slum property complete with substandard buildings is actually greater than the value of the cleared property is one of the main barriers to private development of blighted areas. That's because landlords do make profits out of slum property and are not willing to sell out for peanuts. Once the land is cleared, its poor location deflates its value. A modern apartment house in the midst of an undesirable area is not likely to attract tenants.

By taking on the job of acquiring and clearing slum property, a city can assemble a large enough tract so that an apartment house won't be engulfed by slum buildings left standing.

When it sells the land to developers, the city is required by URA to get approximately fair value for it. URA will withhold its support if it feels the land is being sold too cheaply.

Just how much has been accomplished under the federal urban renewal program? So far, URA has reserved \$800-million in grants for urban renewal, out of \$1-billion it has received in authorizations from Congress. This covers 427 redevelopment and rehabilitation projects in 262 communities. (Actually, though, less than 10% of the grants have been spent.) Municipalities are obligated to spend \$400-million to match the federal contribution. That's \$1.2-billion in public funds. About four times this figure, or \$4.8-billion, is coming from private investors. That makes a total slum clearance program of \$6-billion in the works.

• **Need**—Measured against the need for slum clearance the amount is small. In 1953, the President's Advisory Committee on Government Housing Policies and programs estimated that there were 5-million substandard dwellings in the country. The public construction for demolishing them would come to \$15-billion. If the federal and local

governments absorbed this cost, private groups still would have to come across with about \$60-billion to carry out redevelopment projects. And this takes into account only substandard dwellings. The President's committee also estimated that about 15-million units are in need of rehabilitation.

The number of wholly completed projects is also disappointing. There's only one—in Philadelphia. Some are partially completed—like Lake Meadows in Chicago, with individual buildings actually occupied. In addition to the one completed project, 190 others are in the preliminary planning stage, 106 have reached final planning, and 130 are being constructed. Eighty-three are of the rehabilitation type.

- Reasons for Delay—There are a number of reasons for the big time lag between the preliminary planning and execution of a redevelopment or rehabilitation project:

- It takes a long time for the city to assemble a large tract of land and clear all the titles, even though the highest courts have upheld a city's right to condemn slum property. This right is not recognized by all states, and the issue often has to be tested in the courts before a city can move ahead with its redevelopment plans. And occasionally there is protracted haggling between the city and property owners over prices.

- Demolition work cannot begin until new homes are found for displaced slum dwellers. Most of the people involved are from low-income groups. There is not always sufficient public housing available for them. And it's difficult to find suitable private housing at rentals they can afford. This is particularly true when those dislocated are non-whites, as they often are.

- Once the land has been cleared, finding the right developer is not easy. Municipal officials must try to get developers who will put up buildings that fit in with the city's broad plan for urban renewal. If they want an area to be mainly residential and commercial, they have to turn down offers—perhaps very attractive ones—to convert the cleared property into an industrial park. On the other hand, a developer might be willing to build a project in line with the city's thinking, but offer the city a very low price for the land.

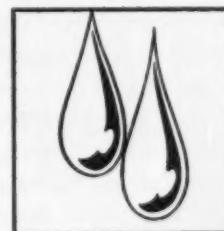
- Potential developers themselves frequently are hamstrung in their efforts to raise sufficient mortgage money. Lending agencies often feel building in a slum area involves additional risks. And in a period of tight money they can afford to be choosy about whom they lend money to.

- New Policy—URA itself is very much concerned about the pace of urban redevelopment. Richard L. Steiner, acting URA commissioner, admits "some

# manual, oil or air-actuated ...for unbiased\* friction clutch recommendations, consult Twin Disc!



Manually-Actuated



Oil-Actuated



Air-Actuated

\* Unbiased recommendations... because whether your operation calls for a manual-, oil-, or air-actuated clutch, all are available from Twin Disc. More important, Twin Disc also makes a complete line of fluid drives, including torque converters—both single-stage and three-stage—for applications from 30 to 1000 hp... as well as fluid couplings for engines and motors from  $\frac{1}{4}$  to 850 hp. For every industrial power transmission requirement—friction or fluid—consult Twin Disc Specialists.



## TWIN DISC

Friction Clutches and  
Fluid Drives

TWIN DISC CLUTCH COMPANY, Racine, Wisconsin • HYDRAULIC DIVISION, Rockford, Illinois  
Branches or Sales Engineering Offices: Cleveland • Dallas • Detroit • Los Angeles • Newark • New Orleans • Tulsa



## Are Your Cleaning Methods EXPENSIVE?

Cleaning sumps and other shop equipment can be tedious, time-consuming and expensive. However, not when you use the most advanced, up-to-date cleaning equipment available—Tornado Series 80 Vacuum Cleaner. A slight twist of the powerful motor unit (325 m.p.h. suction speed) and you have five different cleaners that can perform efficiently and inexpensively. Cleaning times can be cut in half, for example, water and oil can be picked up rapidly, easily with a Series 80. If you would like to rid yourself of expensive cleaning in your plant get the Tornado Series 80 Vacuum Cleaner.

**WRITE FOR BULLETIN NO. 660 TODAY!**

**Series 80 Converts to these FIVE machines, too!**

PORTABLE BLOWER



AIR SWEEPER



VACUUM CLEANER



SHOULDER-TYPE PORTABLE VACUUM



SPRAYER



**BREUER ELECTRIC MFG. CO.**

5104 North Ravenswood Avenue

Chicago 40, Illinois

projects under contract have not moved so fast as we'd like." So the agency is now concentrating on eliminating some of the snags. It has just decided to allow cities to sell cleared slum property at negotiated prices rather than through competitive bidding. This should speed up the process of finding the "right" developer.

URA also has given its regional offices more authority in working with cities on their programs. This should reduce the time required for handling the paperwork.

• **FHA Participation**—To make it easier for developers to get mortgage money, Congress has given the Federal Housing Administration more leeway in guaranteeing mortgages. Before 1954, FHA would not insure mortgages in slum areas. But since then the agency has been authorized to insure mortgages for new or rehabilitated housing in a cleared slum area and also for low-cost housing for displaced persons.

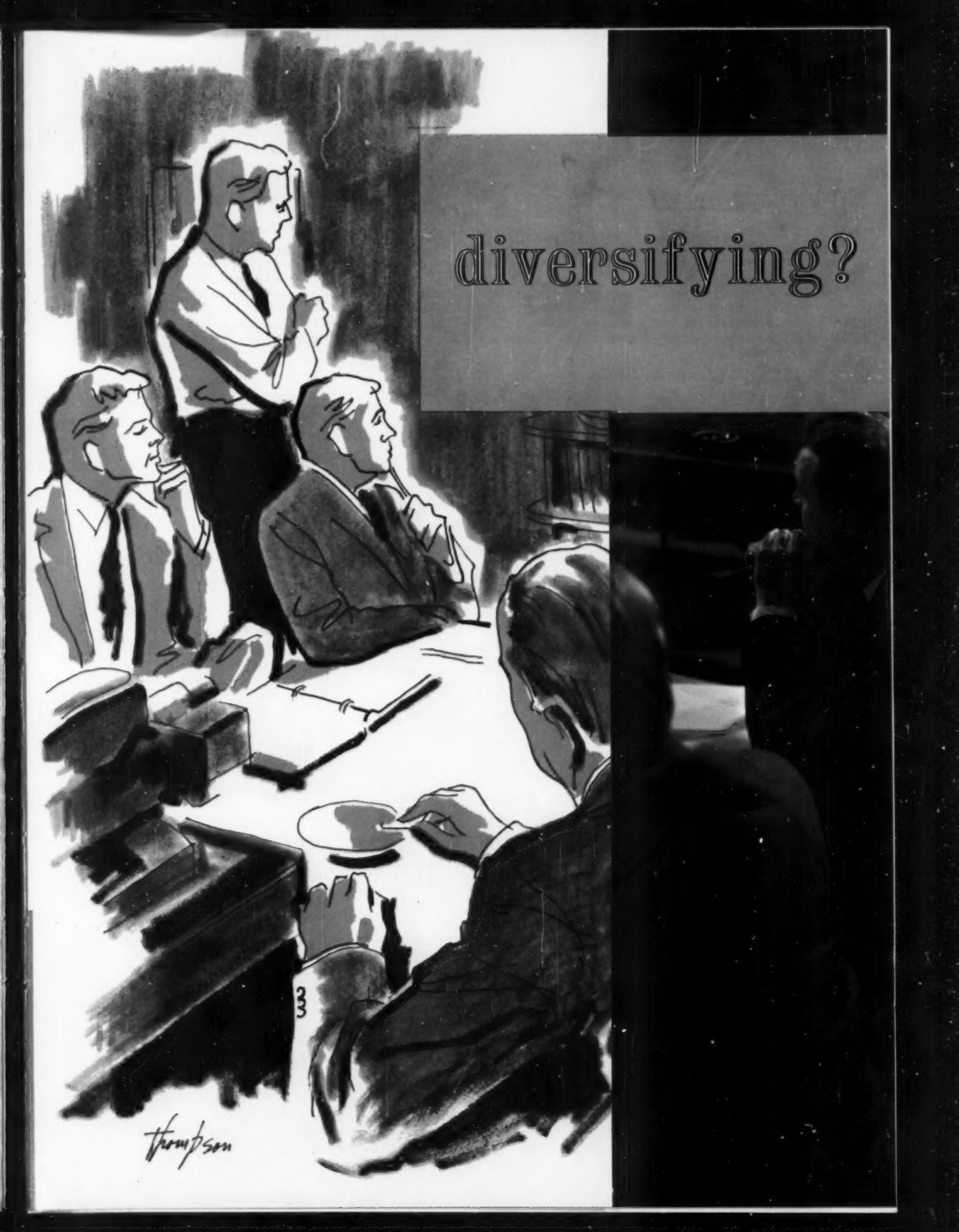
In 1955, FHA was allowed to base mortgages for redevelopment projects on replacement cost rather than on the estimated value of the property in a blighted area, which would be lower. And as a further lure, FHA last year was permitted to include in the estimated replacement cost an allowance of 10% for profit and risk.

• **Official Coordination**—Also in 1955, FHA designated a special assistant for urban renewal, W. Beverley Mason, Jr., to enable the agency to work more closely with URA. Instead of waiting until the city and URA officials have completely worked out a program before advising on its financial soundness, FHA comes into the picture sooner, tells the planners right away if it thinks a project proposal is impractical.

Congress last year also took steps to encourage tenants and merchants in condemned areas to move out more quickly. It authorized URA to make dislocation payments up to \$100 for individuals or families and \$2,000 for businesses.

• **Political Difficulties**—Even though these measures should make it a lot easier for many municipalities to get their redevelopment programs rolling, a number still find their efforts are being stalled by political obstacles. Thirteen states don't yet have legislation enabling cities to participate in the federal program. In some communities, a program was started by one administration, only to be sidetracked when another took over. In San Francisco, a redevelopment agency authorized by the state has been at odds with the mayor and other city departments.

Some cities also have a tough time digging up their contribution to redevelopment projects. In some cases, attempts to raise the money by floating bonds have been thwarted by voters. **END**



diversifying?

thompson

# When you discuss *Diversification* . . .

Why does it pay to see Victor? Simply because Victor has helped so many other companies with their diversification plans.

How? With chemicals that not only *improve* products, but also help create *new* ones. No wonder more than 40 industries today rely on Victor phosphates, formates, and oxalates to cut down manufacturing costs . . . open up new markets.

Victor is *more* than a supplier of industrial chemicals, however. As companies that have used our Technical Department can tell you, confidential solutions to product and process problems are as much a part of Victor Chemical as—the chemicals themselves.

If you're debating about new *products* or new *uses* for present products . . . stop talking. Start acting. Call in Victor. It pays!



**Night Raid.** His "queen" bakes a cake fit for a king *every time* now. Prepared mixes, using Victor sodium acid pyrophosphate as the leavening agent, make the difference.

**Ready for inspection.** Teeth clean as a whistle—thanks to Victor di- and tri-calcium phosphates used as polishing agents in his tooth powder or tooth paste.



**Getaway car—family style.** High-compression motors alone don't insure quick pickup. Fuels must be high powered, too. For that—gasoline with additives using Victor phosphorus oxychloride as an intermediate assures more power, more mileage, longer spark plug life.

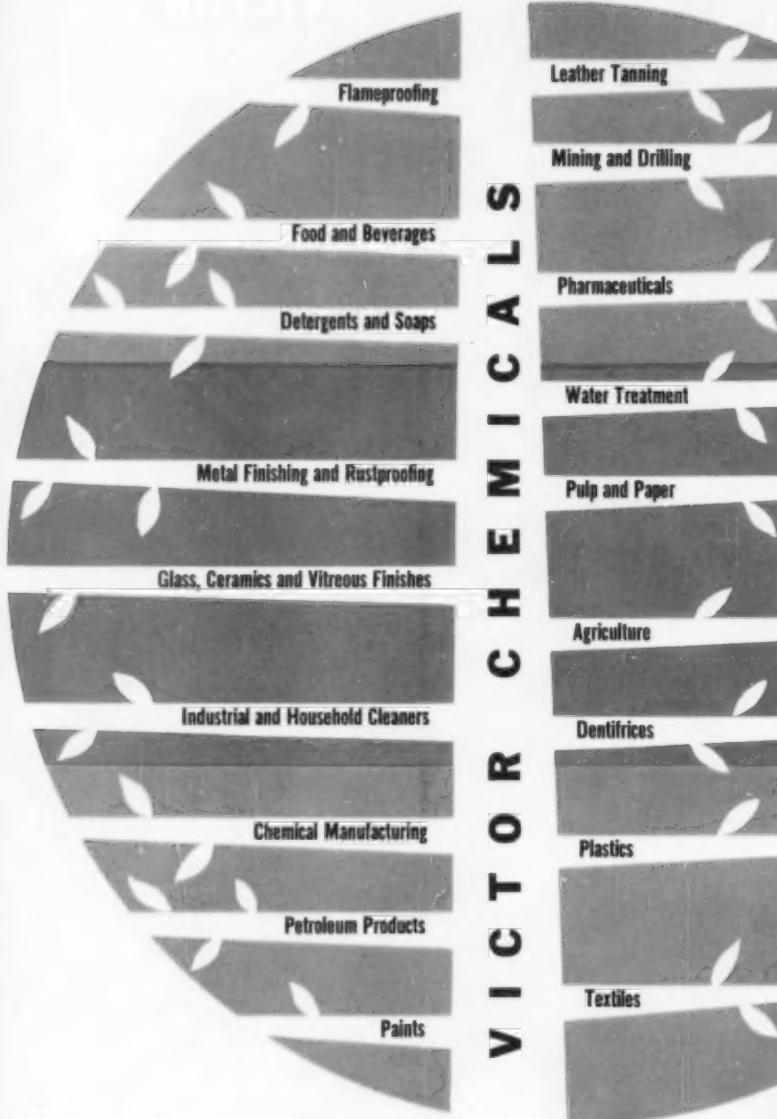
## When you discuss *your future* . . .

Here again, it pays to see Victor. If you're a chemical engineer, sales engineer, or chemist . . . and looking for diversified opportunities . . . the place to look is Victor.

For information, write to: Victor Chemical Works, Technical Personnel Division, 155 N. Wacker Drive, Chicago, Illinois.

*it pays to see . . .*





Printed in USA

**VICTOR CHEMICAL WORKS**

155 N. Wacker Drive  
Chicago 6, Illinois

Please send the Victafile for our industry indicated below:

Industry \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_

Name \_\_\_\_\_ Title \_\_\_\_\_

Please send sample of Victor \_\_\_\_\_

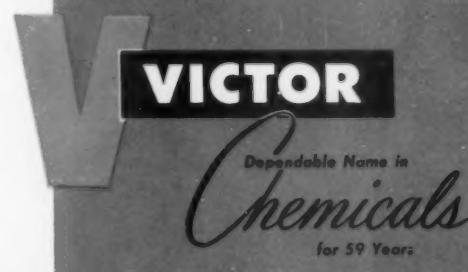
**HOW to DIVERSIFY  
with  
VICTOR CHEMICALS**

The odds are all in your favor that Victor chemicals will help you diversify *properly* and *profitably*. You may find as you thumb through our unique, easy-to-use Victafile system that you, too, can use Victor phosphates, formates and oxalates to cut costs, increase production, or add sales appeal to your products.

Check the Victafile that fits in with your diversification plans, clip the coupon to your letterhead and mail today.

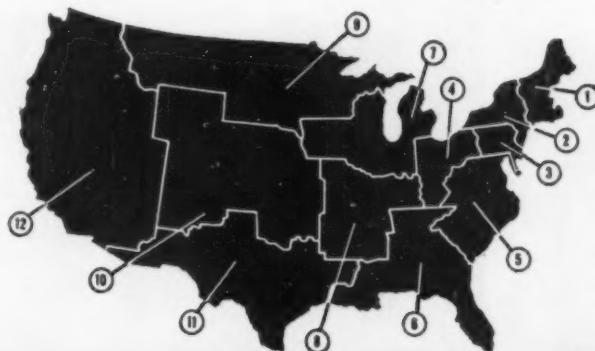
**Which Victafile covers your industry?**

Agriculture  
Chemical Manufacturing  
Dentifrices  
Detergents and Soaps  
Flameproofing  
Food and Beverages  
Glass, Ceramics and Vitreous Finishes  
Industrial and Household Cleaners  
Leather Tanning  
Metal Finishing and Rustproofing  
Mining and Drilling  
Paints  
Petroleum Products  
Pharmaceuticals  
Plastics  
Pulp and Paper  
Textiles  
Water Treatment



**The Income Pattern:**  
Business Week's Regional Income Indexes

**U.S. Incomes: Up 6.4% From Last Year**



©BUSINESS WEEK

Federal Reserve District	% Change vs. year ago	The Indexes		
		October 1956	Sept. 1956	October 1955
1. Boston	+7.5%	286.5	279.1	266.6
2. New York	+6.7%	303.1	298.0	284.2
3. Philadelphia	+5.6%	297.5	291.6	281.6
4. Cleveland	+5.6%	350.0	345.6	331.5
5. Richmond	+5.3%	362.7	363.4	344.6
6. Atlanta	+5.9%	439.6	446.6	415.1
7. Chicago	+5.9%	349.1	343.8	329.8
8. St. Louis	+5.3%	326.7	327.6	310.4
9. Minneapolis	+5.2%	342.7	345.7	325.8
10. Kansas City	+3.5%	397.7	397.0	384.2
11. Dallas	+6.9%	475.9	480.1	445.1
12. San Francisco	+10.2%	402.7	395.2	365.3
Nation	+6.4%	351.0	347.7	329.8

1941 = 100; adjusted for seasonal. October figures preliminary; September revised.

**Third Rise in a Row**

U. S. incomes in October moved to a new high for the third successive month, 6.4% above the year-ago level according to BUSINESS WEEK's Composite of Regional Income Indexes. It was the largest year-to-year gain in four months. Among the regions, gains ranged from 3.5% in Kansas City to 10.2% in San Francisco. Incomes in six regions reached new peaks in October.

From September to October the nation's income climbed 0.9%. Most of the regional month-to-month gains were concentrated in the industrial Northeast and North Central areas although Kansas City and San Francisco were up. And these gains reflect increased manufacturing activity, particularly in auto centers. Together with increased orders for automobile components it helped push up payrolls in

electrical machinery and in metals.

The month-to-month regional showings ranged from a 1.6% drop in Atlanta to a 2.7% gain in Boston. Within the Atlanta region, Tennessee reported lower manufacturing employment during October, mostly in non-electrical machinery with demand for agricultural machinery very slack. Manufacturing remained only fairly stable in Alabama. And in Florida employment gains were seasonal, sales tax collections were down, and unemployment claims were up.

In the Boston region industrial activity was generally stepped up. Massachusetts, Maine, and Connecticut all reported high levels of employment. Only Rhode Island reported employment down slightly during the month, with the normally busy fall season in textiles failing to come up to expectations.

**YOURS**

on request:

portfolio of

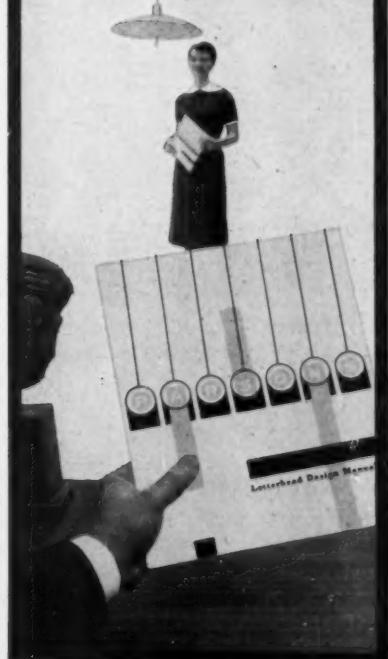
prestige letterhead

designs by

Lester Beall on

**Parsons**  
PAPER

...makers of permanent  
prestige business papers

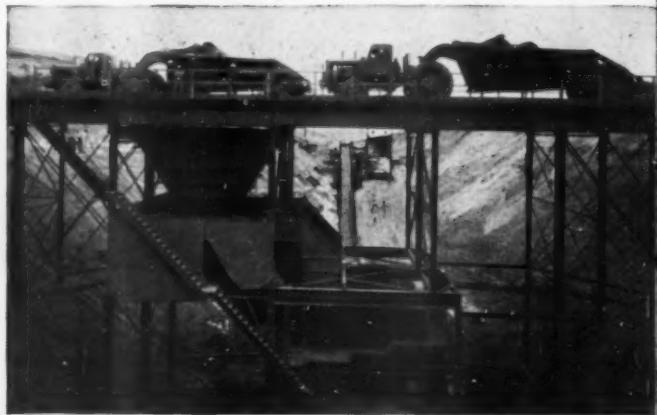
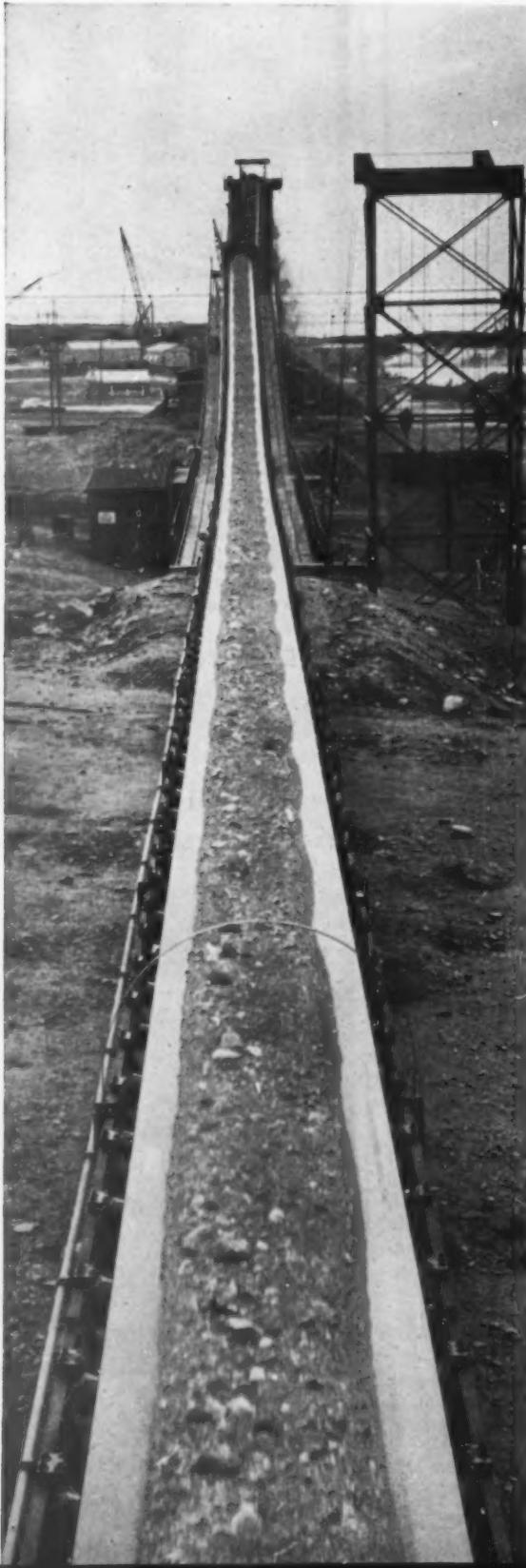


WRITE ON YOUR BUSINESS  
LETTERHEAD FOR PORTFOLIO  
1C3: PARSONS PAPER CO.,  
HOLYOKE, MASS. © PPCO  
1956



PRODUCTION

# Speeding Gravel From Hills to Lake



START of conveyor system for hauling gravel for Southern Pacific's new causeway is trestle where trucks dump their loads.

MAIN CONVEYOR moves gravel to storage pile at Great Salt Lake, across which roadbed is being built. System is 1.8 mi. long.



RADIAL STACKER takes gravel from main belt and piles it up. Two conveyors tunnel through pile and load nearby barges.

# Roadbed

"This job is a matter of moving a few cliffs and dumping them into the lake." That's how Southern Pacific RR's resident engineer, Howard Willard, describes the task of building a 13-mi. rock and gravel causeway across the Great Salt Lake.

Late last month a high-speed, 1.8-mi. long gravel conveyor went into operation (pictures)—putting the Southern Pacific project into high gear. The \$2.1-million overland conveyor, which will move a total 30-million tons of gravel, is the world's fastest.

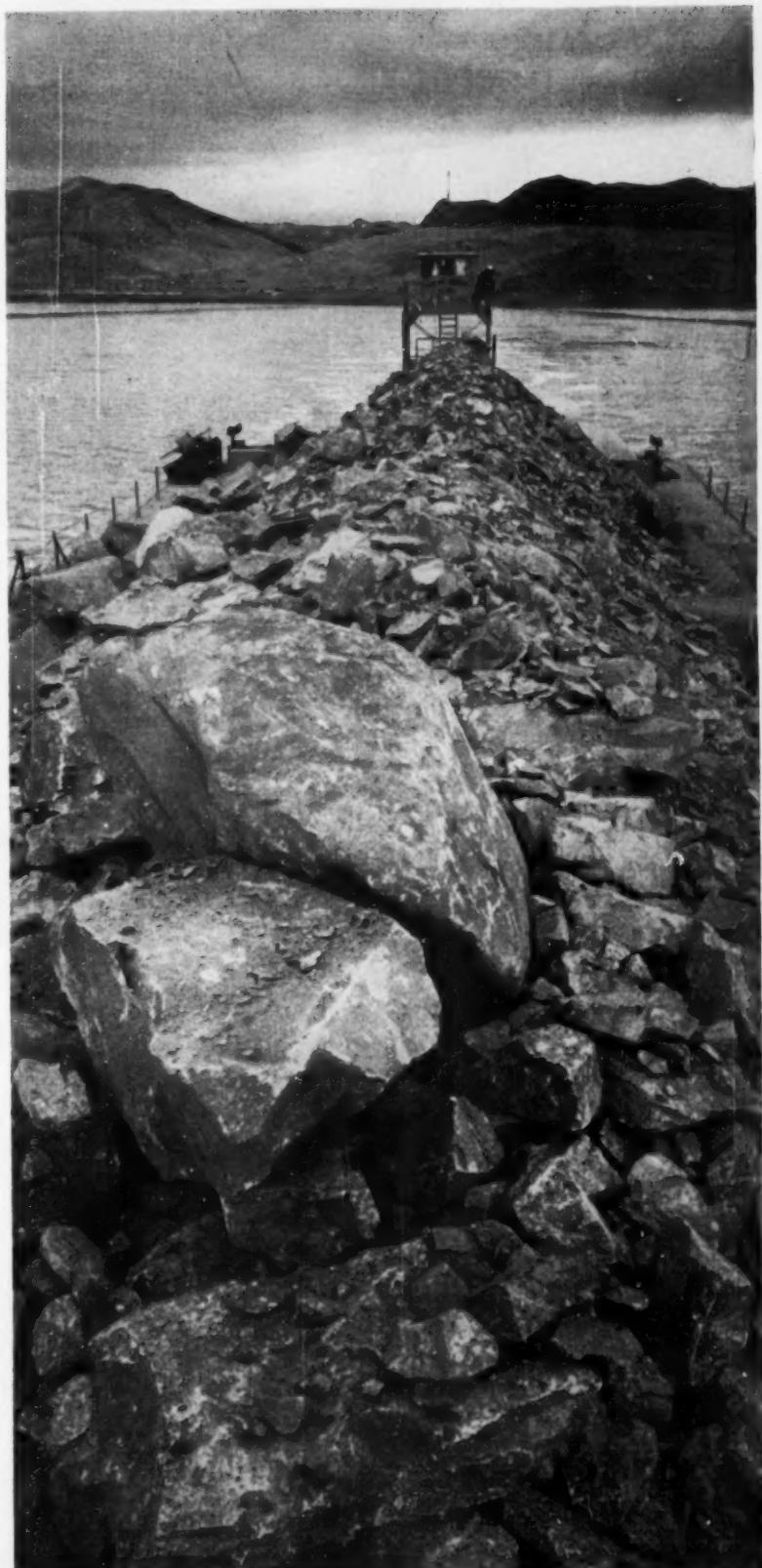
The new \$49-million causeway will replace the single-tracked wooden trestle that was first put up in 1902. The trestle, an engineering feat in its own day, shortens the railroad's route west by 44 mi. Before that, the railroads were no different from the Pony Express and the stage coaches—they went around the lake.

• **Drawbacks of Trestle**—But the scenic wooden trestle has been quite a headache from a maintenance point of view. The corrosive action of the salt water (containing 6 to 8 times more salt than the ocean) and sudden storms can play havoc with it. And fire is another very real menace. So when the Southern Pacific was faced with the job of completely rebuilding the top deck of the old trestle, it decided to junk it instead and built a double-tracked causeway. The new roadbed also will allow trains to move at regular speeds. Passenger trains have to slow down to 30 mph. and freights to 20 mph. to cross the trestle.

Building the 13-mi. roadbed—which will be 35 ft. wide at the top, widening out to 450 ft. at the base and varying in depth from 46 ft. to 85 ft.—will take between 3 to 5 years. Morrison-Knudsen Co., which is building the causeway, terms this one of the greatest earthmoving jobs of all time. Sand, gravel, and rock equal in volume to nine of Cheop's pyramids will have to be moved into the lake to do the job.

• **The Preparations**—The logistics of setting up the earthmoving operation are at least as complicated as preparing for a small-size military invasion. Two dredges had to be brought in from Alaska; a harbor, loading piers, channels, all had to be dug or built. Quarrying operations had to be set up, and a trailer-and-barracks village constructed for 1,000 persons. A fleet also had to be brought into handle the sea-going side of the operations.

A helicopter's-eye-view of the project would show just how complicated this



SPECIALLY BUILT BARGE, 250 ft. long, dumps rock and gravel into channel dredged in lake for roadbed. Tonnage capacity of this barge equals that of 52 rail cars.



**TUNNEL-CONVEYORS** are being completed to move gravel from pile directly on to barges. Opening in tunnel is feed gate through which gravel reaches belts in tunnel.

**ROCK FILL** for Great Salt Lake causeway comes from nearby cliffs. Work crews dug tunnels and packed them with explosives to collapse an entire cliff in one big blast.



## (Story starts on page 68)

earthmoving game can be. Everything you can think of is involved: mining trains, regular working trains, trucks, electric shovels, boats, barges, and lots of conveyors.

- **Conveyor System**—Key to the job is the 54-in.-wide conveyor belt system that reaches back into the hills for the gravel for the fill. The belt, which speeds the gravel along at 850 ft. per minute, can move an average of 4,200 tons per hour.

Moving this much gravel takes a whole system of conveyors, not just one:

- The main conveyor, actually two separate units, will be extended eventually more than 1,000 ft. by adding another unit. (Gravel source is a couple of miles from the lake.)

- Accelerating conveyors ease the gravel onto the main conveyors. These belts are 30 ft. long and travel 500 ft. per minute. They protect the more expensive main belts from excessive wear and tear caused by the strain of loading or transferring the gravel.

- A radial stacker takes the gravel off the main conveyor and piles it 70 ft. high in a 164 ft. arc.

- Two loading conveyors, operating through tunnels in the storage pile, move the gravel to the barges 250 ft. away. Working together, these conveyors can load a 3,000-ton barge in 15 minutes.

- Ten overhead belt feeders working off the storage pile are used to feed the two tunnel conveyors.

The new stone causeway roughly will parallel the old wooden trestle that runs across a narrow part of Great Salt Lake north and west of Ogden, Utah. The right-of-way will be built in two sections. Four miles of the new causeway, the part coming out from the western shore of the lake, will be pushed out by bulldozers working with a Southern Pacific work train. The other nine mi. on the eastern end will be laid by barge.

- **Fill-in Job**—The filling-in operations at the eastern end of the causeway will take a fleet of six 1,000-hp. tugboats, four 1,000 cu.-yd. capacity flatbottom barges, six 3,000-ton dump barges—250 ft. long and 55 ft. wide—and a host of smaller craft for ferrying and supervisory jobs.

Each of the dump barges, fabricated on the West Coast but assembled at the site, can do as much in one trip as a 52-car work train can do in a full day. Average round trip time for these barges will run from 3 to 6 hours. Positioning of the barges for dumping will be controlled by control towers sitting on piles out in the lake.

The bulk of the rock fill will be dumped into the lake by the large



—it's an easy haul now, *Paul*!

Paul Bunyan, fabled in song and story for superhuman feats in the woods, would be amazed at the tremendous hauling jobs of today's trucks equipped with Spicer Fully-Synchronized Transmissions.

Hundreds of thousands of these heavy-duty Spicer Transmissions have been sold for original equipment and replacement service in logging, quarrying, oil fields, buses, earth-moving, and other essential industries which impose extreme punishment upon equipment. Motor transport, one of America's great industries, relies upon Spicer Fully-Synchronized Transmissions for economical, dependable service hauls—across a city or across the continent.

Spicer Transmissions have been produced since 1907. A Thomas Flyer using a Spicer Transmission established the first round-the-world automobile endurance record in 1908, spanning the United States, Asia and Europe on roads and paths that had never before seen a motor car.

Write for booklet describing all of Dana products and facilities.

**DANA CORPORATION • Toledo 1, Ohio**

**SPICER PRODUCTS:** Transmissions, Universal Joints, Propeller Shafts, Torque Converters, Axles, Gear Boxes, Power Take-Offs, Power Take-Off Joints, Rail Car Drives, Railway Generator Drives, Stampings, Spicer and Auburn Clutches, Parish Frames, Spicer Frames, Forgings.

**DANA**

**you  
know  
when  
you see  
this  
truck**

*Vital Link in America's Supply Line*

You know that somebody's freight is in good hands.

You know that it will be delivered on schedule.

You know that the shipper is a man of superior judgment.

**Transamerican Freight Lines, Inc.**

**NATIONWIDE**

**General Offices: DETROIT 9, MICHIGAN**  
ROBERT B. GOTFREDSON, President

OUR  
25th YEAR OF  
SERVICE TO  
SHIPERS

**transamerican**

**NATIONWIDE**



**Snap-on** SUGGESTED  
new modern tool kits...

**SKINNER ENGINE SAVES money**  
— provides better tools

"Let's give customers a tool kit that really matches the quality of our marine engines." With this idea in mind, Skinner Engine Company, Erie, Pennsylvania, called in Kenneth Gray, Snap-on sales engineer. Gray worked with the plant people who use Snap-on tools to assemble the engines.

Today a modern set of Snap-on hand tools goes out with every Skinner Marine engine. These tools not only save maintenance time but are

stronger, safer and cost less than the tools Skinner previously supplied.

**SNAP-ON** tool specialists  
are ready to serve you

Whether it's tool kits for original equipment, wrenches for production or maintenance, or tools of special design, the Snap-on man will be happy to put his tool knowledge and experience at your disposal. A call or letter to the nearest Snap-on branch will bring prompt attention.

\*Snap-on is the trademark of Snap-on Tools Corporation.

**SNAP-ON TOOLS  
CORPORATION**

8100-A 28th Avenue • Kenosha, Wisconsin



barge. When the fill reaches a point 10 ft. just below the lake surface, flat-bottomed barges will move in to build the roadbed up to 2 ft. above the water. Then trucks will be used to raise the causeway another 6 ft. to top it off. After all the fill is in place, a riprap of large rocks will be laid along the water's edge to protect the causeway from storm waves.

The special conveyor system handling the gravel was designed by Hewitt-Robins, Inc., of Stamford, Conn. Except for the first 75 ft., the main conveyor line travels downhill, descending 400 ft. in all. The electric drive motors on the conveyor also function as brakes. This conveyor is not expected to require much, if any, power. In fact, when it moves along under gravity, it will be used to generate electric power for the shovels digging out the gravel.

• **Big Blast**—Moving the gravel down off the hill by conveyor is pretty sophisticated engineering. But getting the rock for the fill was accomplished in brute-force fashion. The engineers found a 300-ft. cliff near the harbor, honeycombed it with "cavate holes," packed them with explosives, and blasted out more than 1,000,000 tons of rock in one shot. About 600,000 lb. of explosive went into the blast.

To prepare for the blast, a series of tunnels 150 ft. long were driven into the face of the cliff, and then shelves of tunnels 40 ft. long were made at the 75-ft. and 150-ft. marks. The drilling of the tunnels took 2 crews six weeks. The rock from this operation is trucked to the harbor and either dumped directly into a barge or stockpiled.

• **Loading Operation**—Loading the barges will take place from two separate spots in the harbor. Rock will be loaded at one huge dock, with trucks filling the center of the barge from a ramp and two cranes loading the ends. The two tunnel conveyors at the other dock will load the barges with gravel.

Construction of the causeway, under investigation for three years, got under way last March. Now that the conveyor is in operation, construction will move into high gear. In time, operations should proceed on an around-the-clock basis.

Southern Pacific, at one time, considered building a reinforced concrete trestle. But test borings showed that a stiff clay material 25 ft. below the lake bottom and a strip of hard rock salt in the center part of the fill section would support a causeway.

The construction village, known as Little Valley, boasts a population of a thousand. Since it is so inaccessible, it is virtually self-contained. It has its own elementary school and a shopping center including a market, telegraph office, barber shop, and jewelry, toy and dry goods units. **END**

# Helpful Jolt for a Plastic

Scientists for several years have been spraying just about every conceivable type of material and chemical with high energy electrons, gamma rays, neutron beams, and the heady mixture of radiations that bounce around the core of nuclear reactors. Mostly, the irradiation has caused changes—but unfortunately the vast majority of materials were downgraded. The scientists came out with less than they went in with.

Still, there are a few materials that irradiation changes for the better. One of them, polyethylene plastic—of squeeze bottle fame—comes out so much improved that it is going to be irradiated on a commercial scale. This week, General Electric's Chemical & Metallurgical Div. announced that irradiated polyethylene will be a regular commercial volume product in GE's line of insulating materials. A new plant is already in operation that can turn out up to 1.6-million lb. a year of irradiated polyethylene film. Expansion plans call for an ultimate capacity of 3.2-million lb. GE will market the materials under the name Irrathene.

• **Insulation**—That 3-million lb. is only a drop in the bucket of the 600-million-plus-lb. capacity of regular polyethylene. But the irradiated type has its own importance; it will do an electrical insulating job that few materials can equal at the price—currently \$2 per lb. compared to about 80¢ for regular sheet.

Ordinary polyethylene, though it's an excellent insulating material, softens and melts at temperatures around the boiling point of water. Once it has been irradiated with high energy electrons, its molecular structure is changed. Its melting characteristics are altered so severely that it no longer melts at all in the strict sense of the term. Instead of collapsing into a useless glob at 180°F, it will withstand temperatures as high as 450°F for short periods, and will last indefinitely at temperatures below 400°F. Just this increased resistance to heat is enough to make it useful over a much broader range of electrical equipment. And Irrathene boasts other attributes:

- It's "plastic memory" is improved. Regular polyethylene, if permanently distorted below a certain temperature, will return to its original shape if it is heated above that temperature. Irradiated polyethylene does the same thing, only better. You can enclose electrical components by winding them in irradiated polyethylene tape that has been stretched. When the component is heated, the tape shrinks on in a tight, permanent seal.

- It seals to itself when heated. When a wrapped coil is baked, the



IRRADIATION, which usually downgrades materials, is boon for polyethylene plastic. Here a GE technician tests a sheet of Irrathene for uniformity.

INSULATION is what the irradiated plastic does best, thanks to high resistance to heat. High-speed cabler (below) wraps Irrathene tape on telephone cable.



# OUR STORY BEGINS AT THE END OF A WIRE...



Precision engineering...  
applied to the end of a wire

All around us—at home, at work, at play—electricity provides the power to speed, comfort, and improve our daily living. Seldom do we consider the countless miles of wire... thick or thin... long or short... that form the arterial network to deliver this power to its point of utility. Within this network, each wire has a beginning and an end—points that are vital to the success or failure of the electrically powered device—points where AMP precision engineering is applied.

For many years AMP has solved problems associated with wire connection and termination through research, development, design, and application of solderless wiring techniques. Wherever electricity is generated, distributed, or utilized there is a need to apply AMP's precision engineering techniques.

Write, today, for literature about AMP's creative approach to better wiring methods.

## AMP INCORPORATED

GENERAL OFFICE: HARRISBURG, PA.

Wholly Owned Subsidiaries: Aircraft-Marine Products of Canada Ltd., Toronto, Canada • Aircraft-Marine Products (G.B.) Ltd., London, England • Societe AMP de France, Le Pre St. Gervais, Seine, France • AMP-Holland N.V. 's-Hertogenbosch, Holland.

Japanese Distributor: Oriental Terminal Products Co., Ltd., Tokyo, Japan.



layers of tape bond together, giving an airtight, moisture-proof coating.

- Irrathene has improved resistance to corrosion, and can be used where the ordinary plastic would crack and swell.

Along with these advantages, irradiated polyethylene retains most of the properties of the regular plastic. Unless you heated it, you couldn't tell the difference between an irradiated tape and its less gifted counterpart. Both are flexible, elastic, and extremely light (polyethylene is the lightest of all plastics, and the only one that will float as a solid in water). Both have equally high electrical resistance.

- Other Researches—Although General Electric claims to hold basic patents in the irradiation of polyethylene, and is the first to be in volume production, several other researchers have experimented with the technique and are producing experimental lots of wire coated with irradiated polyethylene, and such items as boilable bottles.

GE buys the polyethylene sheet that it irradiates; it has no intention of going into basic production of the plastic. The sheet, coiled in large rolls, is zipped through a 2-million electron-volt beam from a resonant-transformer type of cathode ray generator. The machine is similar to the Betatron type of commercial X-ray units manufactured by GE's Transformer Div.

Getting an even dose of radiation all over the sheet while utilizing all the radiation energy is a tricky part of the process, and the key to its economy. In GE's setup, a complex series of rolls passes many layers of sheet simultaneously through the electron shower.

- Spaghetti—Irradiated polyethylene holds promise in forms other than sheet. GE is tuning up to make a high-strength, high-temperature extrusion compound for wire coating, or for the tubing, called spaghetti, that can be slipped over heavy wire to provide extra insulation.

Other projects in the development hopper include shrinkable tubing and various filled compounds. Addition of fillers degrades regular polyethylene, but adding carbon black to Irrathene improves its chemical and physical properties. One filled grade of tape is semiconducting, so it dissipates static and reduces corona.

Though polyethylene is the most promising irradiated material from an immediate commercial standpoint, there are other plastics that may be helped by an electron bath. GE has, in advanced stages of research, a method for curing silicone resin by irradiation. Silicones (GE is a basic producer of them) are excellent high-temperature insulating materials, and might be even more useful with a better method for curing them. **END**

## NEW PRODUCTS



DEVELOPMENTAL model of Panelescent light is of higher intensity than its predecessors.

## Switch in New Lamps

The even glow of Panelescent light, first developed commercially six years ago by Sylvania Electric Products, Inc., is now visible in 14 new products introduced recently by Sylvania and others.

In Panelescent lamps, light is created by the excitation of certain materials in an electric field—without the use of filaments, bulbs, vacuums, gas discharges, or any of the other commonly recognized components for electric lighting.

New applications of this principle, known as electroluminescence, include:

- A telephone dial illuminated without a bulb, easy to find and to read in the dark.

- A combination thermometer and utility lamp that records the temperature accurately, without absorbing heat from the light.

- Aircraft instruments that glow the standard aviation red and can withstand the shock of a 1-lb. steel ball dropped from a 3-ft. height.

- Home night lights, a light switch-plate, illuminated house-number plate, and street signs.

- **How It Works**—In its simplest form, a Panelescent light consists of a ceramic-phosphor-coating sandwiched between two flat conducting sheets. In most cases, one of these sheets is of enameled

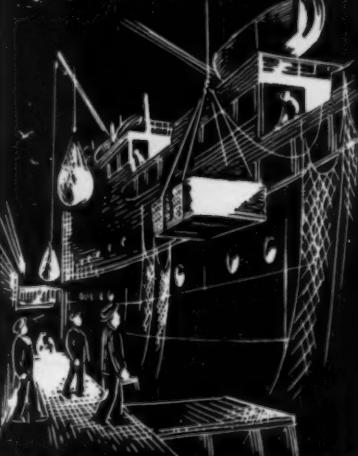
steel and the other of a transparent tin salt compound with a protective covering. When an alternating current crosses the transparent face and steel back, the ceramic-phosphor-layer in the center glows, any color of the rainbow.

Brightness depends on voltage and frequency—higher frequency and higher voltage yield brighter panels. In most of the new products, the lamps work on 120-volt, 60-cycle alternating current, but the aircraft instruments employ 600 volts and 400 cycles. Other Panelescent lamps have used 1,000 or more volts.

• **Advances**—Panelescent lighting's advent on the market was in 1953, in the dial face of a Sylvania clock-radio. But because the first panels were of glass, they couldn't be used where ruggedness was necessary. The new types lick this problem. Only .0025-in. thick, they are flexible and durable. They can be made in sheets and cut into smaller shapes later. Holes or slots can be added. And very thin steel sheets can be bent into rings and many other lamp forms.

So far, Panelescent lighting is practical only for low-level illumination. As brightness increases, so do operating costs—because high-frequency conversion equipment is costly and because efficiency and life expectancy of the

## PORTAL TO Opportunity



Canada's amazing industrial growth and increasing prosperity occupy the attention of world industrialists.

## NOVA SCOTIA

Gateway to Eastern Canada — keystone to European, South American, Caribbean and Middle East shipping routes — with fuel, power, water, raw materials, paved highways and ice free ports close to plant sites — Nova Scotia offers specific advantages to industrialists.

May we help you plan your new or expanding manufacturing and marketing operations?

Write, in strictest confidence, to

DEPARTMENT  
OF TRADE AND INDUSTRY  
HALIFAX — NOVA SCOTIA

Hon. W. T. Dauphinee — Minister  
J. R. Bigelow — Deputy Minister



# 112 Million Customers Every Day

FROM BUCKETS TO BILLIONS

Less than a century ago, water was purchased from vendors for a penny a bucket. Today, water is available at a twist of the wrist—17,500 modern water systems provide 142 billion gallons of pure, fresh water each day to 112 million homes and industries. During the past 100 years, the tremendous water industry has had spectacular growth in size and service; and careful, far-sighted planning has assured an ample supply of water for America's future. Mueller Co. has played an important role in the dramatic growth of this faithful public servant for 100 years. Mueller research, engineering skill and manufacturing facilities, backed by a century-old tradition, are pledged to the future progress of the vital American water industry.

**MUELLER CO.**

Factories at: Decatur, Chattanooga,  
Los Angeles; In Canada: Mueller,  
Limited, Sarnia, Ontario



**DECATUR, ILL.**

Since 1857

lamps dwindle as they get brighter and hotter. However, at low voltages, the lamps will last more than 30,000 continuous hours.

Despite present shortcomings, Sylvania thinks Panelescent lighting will compete before long with fluorescent lamps. Frank J. Healy, vice-president of lighting operations, expects that "electroluminescence will some day, very soon, rank equal with the incandescent and fluorescent lamp and others as a major light source." In present plans, production of Panelescent units during 1957 will total 200,000—equivalent to the entire output to date.

• Producers—At present, Sylvania is the only company marketing Panelescent lamp units. In most instances, it supplies just the lighting surface to independent lamp makers, instead of turning out the whole product itself.

The thermometer-utility lamp, for example, is sold by the Thermometer Corp. of America, Springfield, Ohio, at retail prices ranging from \$5 to \$6.95. Two concerns—Plasteck, Inc., Poteau, Okla., and the Sun Dial Corp., Caldwell, N. J.—manufacture the aircraft control panels and signs. In Lynn, Mass., General Electric is testing a tachometer that uses Panelescent light.

Sylvania itself produces a clock-radio with a Panelescent face telling the hours.

## NEW PRODUCTS BRIEFS

Germanium rectifiers that are expected to outlive television sets are being produced by General Electric. In the past, one out of every 10 times a TV set went on the blink, rectifier failure has been to blame. It has also been the major source of shrunken, distorted pictures. Because of greater knowledge of germanium processing and better production controls, these rectifiers—formerly prohibitively expensive—are now economically practical for home television.

Inexpensive stereo microscopes, said to be highly practical and efficient for inspections, examinations, and precision assembling, are a new product of Edmund Scientific Corp., Barrington, N. J. With standard eyepieces, the scopes give a three-dimensional, 21- and 34-power image, correct left and right, at working distances up to 3 in. For more varied magnification, additional eyepieces are available. Price, f.o.b. factory: \$99.50.

A portable wrap-around labeler, 4 ft. long and 1 ft. wide, can be quickly placed on a conveyor line without the use of screws or other attachments. Developed by the Arner Co., Inc., Buffalo, it can be adjusted to handle a variety of bottle or vial sizes. One operator can do a job that previously required four.

# BETHLEHEM STEEL

## Some Highlights of the Year Just Ended



**NEW BLAST FURNACE RISES AT SPARROWS POINT**  
This new furnace, nearing completion at the year's end, is a key item in the current expansion program at Bethlehem's Sparrows Point, Md., plant, which will give that plant an annual steel ingot capacity of 8,200,000 tons, larger than the present capacity of any other steel plant in the country.



**NEW OPEN HEARTH AT LACKAWANNA**  
This heat of steel is being poured from a new open-hearth furnace, provided under the program of additional facilities at the Lackawanna, N. Y., plant, a part of the current \$300,000,000 expansion program, largest in Bethlehem Steel's history.

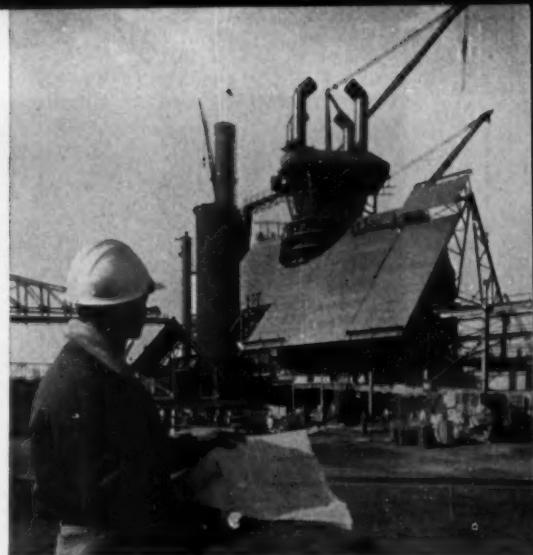
**NEW YORK'S NEW SHOW PLACE.** Opened in the late spring of 1956, the New York Coliseum has total exhibition area equivalent to nine football fields. Bethlehem furnished the 13,000 tons of steelwork and nearly 4,000 tons of concrete reinforcing bars.



**MANGANESE ORE FROM BRAZIL AND MEXICO.** During 1956 the first shipments of manganese ore were brought out of Mexico and Brazil from properties in which Bethlehem Steel has an interest. Below is shown the new ore-loading station on the Amazon River.



**MAKING STEELMAKING SAFER.** In the latest annual safety contest sponsored by the Metals Section of the National Safety Council, Bethlehem's Lackawanna, N. Y., plant won first place among all large steel plants. The Bethlehem, Pa., plant won second place, and the Johnstown, Pa., plant third. Among other Bethlehem operations honored for safety achievements were plants at Sparrows Point, Md., and Steelton, Lebanon, and Pottstown, Pa.



**THE "STOCKHOLM" GOES TO SEA AFTER COLLISION REPAIRS**  
The liner "Stockholm," following repair at Bethlehem's 56th St. Brooklyn Yard of the damage she suffered in her collision with the ill-fated Andrea Doria, passed her sea trials with flying colors and is now back in service.



**TIN-MILL FILM WINS "OSCAR"**  
"Bright Steel," a movie in color telling the story of Bethlehem tin mill products from raw materials to the finished "tin" cans and other familiar uses, received the first place award among industrial films exhibited at the 1956 Cleveland Film Festival.



**CALIFORNIA SCHOOL FEATURES EXPOSED STEEL**  
Hillsdale High School at San Mateo, Calif., is typical of numerous new school buildings all across the country featuring exposed structural steel, both indoors and on the exterior. The steel for Hillsdale High was rolled in the Pacific Coast plants of Bethlehem Pacific.





U. S. Air Force Photo

Designed basically for night photographic work, the Martin RB-57 is employed by USAF TAC, powered by two Wright J-65 jet engines.

## WADC'S WEAPONS GUIDANCE LABORATORY GIVES ACCURACY TO AIR FORCE BOMBS, MISSILES AND AIRCRAFT

The Weapons Guidance Laboratory at the Air Research and Development Command's Wright Air Development Center performs applied research and development of all Air Force weapons guidance equipment.

Included under this broad category are airborne bombing systems and equipment, weapon defense systems, offensive fire control systems, missile guidance equipment, electronic jamming systems, chaff systems, navigation systems, manual navigation aids and special test equipment peculiar to the requirements of the weapons guidance systems or equipment. In addition, all components of the foregoing are the province of this

laboratory. The facilities available for these studies include various gun ranges, temperature and altitude chambers and other specialized test and evaluation installations.

Weapons Guidance is one of the laboratories that form the Wright Air Development Center. WADC, in turn, is the largest Center under the Air Research and Development Command. At its location at Wright-Patterson Air Force Base, Ohio, upward of 10,000 military and civilian workers are engaged in research, development and testing of aircraft, guided missiles and all types of associated flight and ground equipment.

This is one of a series of ads on the technical activities of the Department of Defense.



**FORD INSTRUMENT COMPANY**

DIVISION OF SPERRY RAND CORPORATION  
31-10 Thomson Avenue, Long Island City 1, New York  
Beverly Hills, Cal. • Dayton, Ohio

**ENGINEERS**  
of unusual abilities can find a future at FORD INSTRUMENT COMPANY. Write for information.

105



Engineer of Ford Instrument Company checking unit designed by the Company for the Air Force to be certain that its magnetic effects will not affect other instruments in the aircraft.

## FINANCE

# The Changed Pattern in Life Company Investments Since 1939

ALL FIGURES ARE IN MILLIONS OF DOLLARS.

Prewar December 31, 1939		Wartime December 31, 1945		Postwar Years December 31, 1955		December 31, *1956	
Amount	% of Total	Amount	% of Total	Amount	% of Total	Amount	% of Total
<b>BONDS</b>							
U.S. Governments....	\$5,373 .. 18.4%	\$20,583 .. 45.9%	\$8,576 .. 9.5%	\$7,600 .. 7.9%			
Municipal.....	2,253 .. 7.7	1,047 .. 2.3	2,038 .. 2.3	2,250 .. 2.3			
Foreign Governments†.....	71 .. 0.3	915 .. 2.1	1,068 .. 1.2	1,100 .. 1.2			
<b>Total Governments.....</b>	<b>7,697 .. 26.4</b>	<b>.22,545 .. 50.3</b>	<b>.11,682 .. 13.0</b>	<b>.10,950 .. 11.4</b>			
Railroads.....	2,758 .. 9.4	2,948 .. 6.6	3,912 .. 4.3	3,900 .. 4.0			
Public Utilities.....	3,818 .. 13.1	5,212 .. 11.6	13,968 .. 15.4	14,500 .. 15.1			
Industrial, misc.....	1,353 .. 4.6	1,900 .. 4.3	18,179 .. 20.1	19,900 .. 20.7			
<b>Total Corporates.....</b>	<b>7,929 .. 27.1</b>	<b>.10,060 .. 22.5</b>	<b>.36,059 .. 39.8</b>	<b>.38,300 .. 39.8</b>			
<b>STOCKS</b>							
Railroad.....			150 .. 0.2	150 .. 0.2			
Public Utilities.....	536 .. 1.8	999 .. 2.2	1,393 .. 1.5	1,400 .. 1.4			
All Others.....			2,090 .. 2.3	2,100 .. 2.2			
<b>Total.....</b>	<b>536 .. 1.8</b>	<b>999 .. 2.2</b>	<b>3,633 .. 4.0</b>	<b>3,650 .. 3.8</b>			
<b>MORTGAGES</b>							
Farm.....	887 .. 3.0	776 .. 1.7	2,273 .. 2.5	2,500 .. 2.6			
Nonfarm.....	4,782 .. 16.4	5,860 .. 13.1	27,172 .. 30.1	30,600 .. 31.8			
<b>Total.....</b>	<b>5,669 .. 19.4</b>	<b>6,636 .. 14.8</b>	<b>29,445 .. 32.6</b>	<b>33,100 .. 34.4</b>			
<b>OTHER ASSETS</b>							
Real Estate.....	2,134 .. 7.3	857 .. 1.9	2,581 .. 2.9	2,850 .. 3.0			
Policy Loans.....	3,248 .. 11.1	1,962 .. 4.4	3,290 .. 3.6	3,500 .. 3.6			
Cash & Misc.....	2,030 .. 6.9	1,738 .. 3.9	3,742 .. 4.1	3,900 .. 4.0			
<b>TOTAL ASSETS.....</b>	<b>29,243</b>	<b>.44,797</b>	<b>.90,432</b>	<b>.96,250</b>			

\*Estimated. †Largely Canadian.

Data: Institution of Life Insurance; Life Insurance Assn. of America

## Hunting a Higher Net Return

The U.S. life insurance trade—which collectively owns the world's largest reservoir of investment funds—continues to expand at a spiraling rate. In fact, everything in its life is beautiful—except the net return on investment.

Take a look at the figures, presented last month in New York at the 50th annual meeting of the Life Insurance

Assn. of America, the trade's top level management organization:

Sales of new policies in 1956 were expected to well exceed \$55-billion, a gross that tops by 15% the old high set the year before, according to Edmund Fitzgerald, LIAA head and president of the giant North-Western Mutual Life Insurance Co. Fitzgerald fig-

ured that total life insurance ownership at the yearend would hit a record \$415-billion, spread among 106-million policyholders.

Total assets of the trade (table) were also headed for a yearend record, probably at \$96.2-billion, according to Dr. James J. O'Leary, LIAA director of research. That would mean a 12-month

**To be sure of adequate cash whenever you need it in 1957**

**Consult  
COMMERCIAL  
CREDIT**

**Last Year** hundreds of new users turned to COMMERCIAL CREDIT's Commercial Financing Plan as the ideal way to supplement their cash working capital. If your plans for the New Year might be adversely affected by a tight money market, investigate this method.

**Experience** has proven that the Commercial Financing Plan is usually able to provide **MORE CASH** than is available from other sources. Also, this extra cash is available **CONTINUOUSLY** (if needed) without negotiation for renewal.

**This method** is flexible enough to fit most any situation—whether the need is for weeks or years, whether the amount involved is \$25,000 or Millions. Cash is usually available within 3 to 5 days after first contact. There is no interference with ownership or management. There are no preliminary expenses and no long-term commitment. The one reasonable charge is a tax deductible expense.

**Knowledge** of COMMERCIAL CREDIT's Commercial Financing Plan may make it possible for you to take prompt advantage of 1957 opportunities that might otherwise be missed. For additional facts, write and say, "Send me more information about the plan described in *Business Week*."

Address the nearest COMMERCIAL CREDIT CORPORATION office listed here: BALTIMORE 1; 200 W. Baltimore St., CHICAGO 6; 222 W. Adams St., LOS ANGELES 14; 722 S. Spring St., NEW YORK 17; 100 E. 42nd St., SAN FRANCISCO 6; 112 Pine St.

---

**COMMERCIAL CREDIT COMPANY'S** subsidiaries, during the past year, advanced over one billion dollars to manufacturers and wholesalers to supplement their cash working capital. The total volume of its finance subsidiaries amounted to over three and one-half billion dollars.

**Capital and Surplus  
over \$200,000,000**

jump of \$5.8-billion-plus, the third largest annual increment in history, topped—and that thinly—only in 1955 and 1954.

The dollar return on the life companies' investments was also headed for a record, at \$3-billion, according to O'Leary. That would be 10%—or \$272-million—above the old high established the year before.

That leaves only one aspect of the life insurance figures that falls short of the sensational: the rate of net earnings on investment. Even this rate managed to continue the steady rise it began in 1947. But the rise was far short of what the insurance companies consider necessary to bring their rate of return back to a satisfactory level—especially at a time when yields on investments generally are the highest in years.

• **Taxes Blamed**—The life trade itself blames much of this stunted growth on the federal taxes slashed out of its investment earnings since the late 1940s. And the record supports the claim: Just since 1951, the federal income tax has gulped down \$972-million of the \$1.2-billion gain in pre-tax earnings.

O'Leary estimates that last year's pre-tax earnings ran around 3.63%, which is 12 basis points above the 3.51% in 1955. But after the federal income tax was hacked out, the rate figured to be 3.33%, only 10 basis points above the previous year.

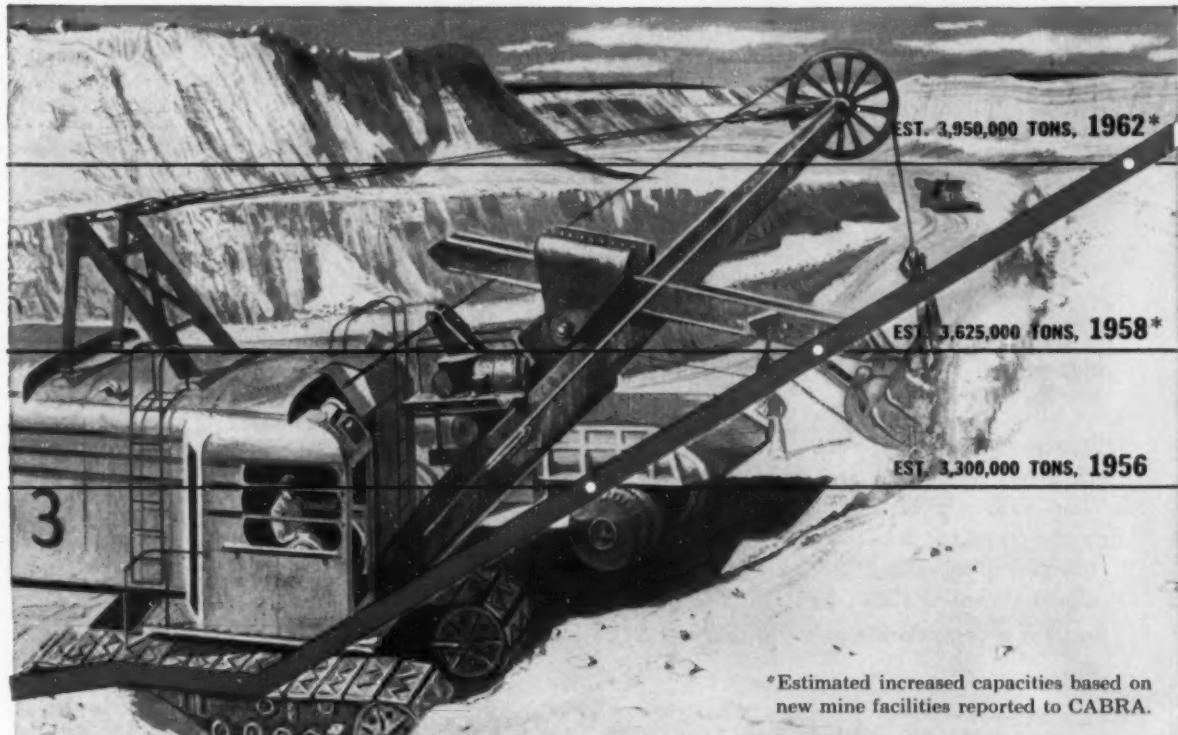
The same sort of shrinkage appears if you match up 1951 figures with O'Leary's estimates for 1956. Over that stretch, the pre-tax rate climbed 45 basis points, all the way up from 3.18%. But the after-tax gain was only 35 basis points, climbing from 2.98%.

• **Mote or Beam?**—To the layman, the life trade may seem to be squealing before it is stuck, especially in the light of a 1947 after-tax rate that was way down at 2.88%. But the small melting of basis points from pre-tax to after-tax takes on much grander proportions when you remember that each 10 basis points is  $\frac{1}{10}$  of 1% of the return on a \$92-billion portfolio—a return that already ranges down around 3 $\frac{1}{4}$  to 3 $\frac{1}{2}$ %.

This massive effect of the basis points is only one aspect of the life companies' plaint. Another lies in some older figures. It's true that last year's 3.33% net return on investment is the largest in 14 years. But—a very big but—the 3.33% is small potatoes compared with a lot of the years before 1942. That's notably true for the roaring 1920s, the last boom period that's at all comparable to the post-World War II era of prosperity. Between 1921 and 1929, the life trade showed annual net returns on investment that ranged from 5.18% to 5.02%.

• **Manna From Heaven**—However large the gap between those returns and the

# Still MORE COPPER is coming as free-world capacity expands!



\*Estimated increased capacities based on new mine facilities reported to CABRA.

"Can we depend on Copper's availability?"

This question concerns many a Company whose product and whose future depend on the quality of materials used today.

In answering that important question, the Copper Industry gives this assurance: "Already, enough Copper has been made available to meet any normal requirement. And more is scheduled to come. Increased capacity . . . careful planning throughout the Industry . . . these factors will help to meet the expected increase in demand for Copper."

When your Company executives are discussing the subject of *Copper*, suggest that they review Copper's contributions to product-quality.

Remind them that no substitute offers Copper's combination of advantages.

Copper conducts electricity better . . . lends itself to miniaturization . . . won't rust and resists corrosion . . . is an excellent heat transfer agent . . . forms and joins easily.

So, as your Company moves ahead into 1957, let your policy be: "Progress is important to us and Copper is important to our Progress!"

## COPPER & BRASS RESEARCH ASSOCIATION

420 Lexington Avenue, New York 17

COPPER OR ITS ALLOYS PROVIDE THESE ADVANTAGES: Best conductor of electricity commercially available • Does not rust . . . high corrosion resistance • Best heat transfer agent of all commercial metals • Easy to machine, form, draw, stamp, polish, plate, etc. • Welds readily . . . excellent for soldering and brazing

## THE PACKAGING NEWSFRONT

**Schools, churches and institutions faced with space and budget problems** are finding a solution through the use of **Bemiswall, the new type of folding wall** made by TransWall Coated Products, a department of Bemis.

Although folding walls have become widely accepted as a means of creating needed rooms out of otherwise unusable space, cost has frequently been a deterrent.

**Through simplicity of design**, while retaining all of the merits of other leading makes, the cost of Bemiswall has been kept **far below that of comparable partitioning installations**.

As one illustration, the Bemiswall makers cite the experience of a church in a Wisconsin city which recently asked for quotations on folding walls to separate church school rooms. One quotation, from a prominent manufacturer, was \$231 per wall. **The Bemiswall quotation, for a comparable installation, was \$126 per wall.**

**Bemiswall features** include ease of operation, long life, freedom from trouble, lightness and space-saving and a high performance in both noise control and fire resistance.

You can answer so many needs with Bemis products . . . both in and out of the packaging field. If you need a package that will **increase sales, give better protection to your product, or simply save you money . . .** or if you are interested in other Bemis developments in paper, textiles or plastics . . . consult us. Bemis products meet an astounding number of industrial, commercial and recreational requirements, and new uses are continually coming to light. You may want our engineers to **create a new package, or to advise you on packaging methods.** Please write us.



408 D Pine Street  
St. Louis 2, Mo.

# Bemis

ones recorded more recently, it has been narrowed appreciably by the heavy demands of business for capital funds since 1945. Here's why:

On V-J day, the life company portfolios were in a very abnormal balance, with a heavy lean toward government obligations. Thus, at the 1945 yearend, 46% of the trade's assets were in governments, compared with only 1.9% in 1929. And this huge lump of governments had returns ranging downward from 2.50%. At the same time, 1945 mortgage holdings were only 14.8% of assets, compared with 41.8% in 1929.

Obviously, the whole trade has spent the years since the war getting its investments back to a more normal and lucrative state—and the heavy demands for capital funds have helped it no end. Holdings of governments have been shaved back drastically, both in dollars and percentages; they have been replaced with mortgages—non-farm, residential, and corporate—non-mortgage long-term corporate loans, and to a lesser extent with preferred and common stocks.

• **A Minor Factor**—O'Leary says that by the end of 1956, life holdings in governments were back to a modest 8% of total assets. Mortgages, "farm and non-farm," were up to 34%, while corporate bonds were near 40%. The holdings of preferred and common stocks were still Tail End Charley, making up only 4% of portfolio, despite the noisy ballyhoo of a major shift in that direction. At that, the stock investments represented a threefold increase in dollar value since the war.

The buying habits that have brought these extensive portfolio changes since 1945 are still going on. Last year, holdings of governments fell off nearly \$1-billion; mortgages were up almost \$3.7-billion; corporate bond holdings increased by about \$2.3-billion. And there is no sign that the trend is due for any change in the immediate future.

• **Costs**—Life insurance companies have three major "cost" factors:

- The death rate among policyholders.
- The actual cost of running the business.
- The rate of earnings on investments.

The death rate, moving steadily downward for many years, has been highly favorable to the companies. Running expenses, though they have risen here as in all other trades, have not been nearly so hurtful a factor as they have elsewhere. Indeed, the ratio of expenses to total income is still below the late 1920s, though it has climbed above the levels of the 1930s.

• **Maximum**—That leaves the after-tax rate of return as the life companies' only major cost worry, and even here



How **fmc** raised  
**\$107,000,000...**

**KIDDER, PEABODY & CO.**

**NO. 5289**

As Representative

**NEW YORK, N. Y.**

**PAY TO THE  
ORDER OF FOOD MACHINERY AND CHEMICAL CORPORATION. . \$107,000,000.00**

**ONE HUNDRED SEVEN MILLION AND ..... 00/100 DOLLARS**

*by* 

**for "PUTTING IDEAS TO WORK"**

Twenty years ago Food Machinery and Chemical Corporation was a comparatively small manufacturer of equipment for the food industry with annual sales of about \$8,000,000. Today FMC's sales are estimated at \$300,000,000 and the Company is a highly diversified maker of machinery, chemicals and products for the military.

To finance this extraordinary growth, Kidder, Peabody & Co. has managed the underwriting of 11 different securities issues to raise over \$107,000,000 for FMC since 1936—including a \$30,000,000 issue of debentures in 1956.

We invite you to call on us if your corporation should presently need new money.

**KIDDER, PEABODY & CO.**

FOUNDED 1865

Members New York and American Stock Exchanges

Members Boston and Midwest Stock Exchanges

17 WALL STREET • NEW YORK 5, N. Y.

BOSTON CHICAGO PHILADELPHIA SAN FRANCISCO



## Canadians Want to be... *Partners* in their own Development

This fact is being accepted by a growing number of companies—particularly those who have established operations in the Canadian market in more recent years.

World renowned companies from Belgium, France, Germany, Great Britain, Switzerland and the United States have insured both a wide local identity for their subsidiary and a strong measure of continuing goodwill by inviting Canadians to participate to an important degree in the financing of those subsidiary operations.

As Underwriters of securities for over thirty-five years and for some time interested in this particular phase of Canada's development, we are able to offer experienced counsel and nation-wide distribution facilities to companies who have, or contemplate having Canadian subsidiaries.

Member:  
The Investment  
Dealers'  
Association  
of Canada

All Major  
Canadian  
Stock Exchanges

### Gairdner & Company Limited

320 Bay Street, Toronto, Canada

EMpire 6-8011

Montreal      Kingston      Quebec      Calgary      Vancouver  
Hamilton      Kitchener      London      Edmonton      Winnipeg  
New York



### He Answers Million Dollar Questions—

Millions of dollars may be at stake in a company's insurance program. That's why your insurance broker must know his business—and know it well.

Every account executive at Johnson & Higgins, like the man above, backs up his own expert knowledge with the experience of a world-wide network of trained specialists in every phase of the insurance business.

If your company has a problem in insurance planning, regardless of size, you can call on J&H for expert help.

### JOHNSON & HIGGINS

INSURANCE BROKERS—AVERAGE ADJUSTERS  
EMPLOYEE BENEFIT PLAN CONSULTANTS

63 WALL ST., NEW YORK 5

Chicago • San Francisco • Los Angeles • Detroit • Cleveland  
Philadelphia • Pittsburgh • Buffalo  
Seattle • Wilmington • Minneapolis  
Atlanta • Vancouver • Winnipeg  
Montreal • Toronto • Havana • London  
Rio de Janeiro • São Paulo • Caracas

some improvement has been attained. But the trade is still not satisfied, which is why it is fairly certain to continue the shift into the highest paying investments that can be had without jeopardizing institutional security.

The chances are that the rate of return will climb a bit more this year. As O'Leary sees it, the life companies have a cash flow of about \$10-billion a year that must be invested to earn its keep. And he expects the market forces in 1957 to "produce firm to rising interest rates."

### FINANCE BRIEFS

Tight money, already blamed for just about everything but the rise in juvenile delinquency, may knock home building down 10% from 1956 levels, according to executives of the building materials industry. Chmn. Melvin H. Baker, of National Gypsum Co. predicted more than 1-million starts (there were 1.1-million last year) "if mortgage money becomes more available." Harold R. Berlin, Johns-Manville vice-president, forecasts 1-million starts, but figures total spending on all construction to be up slightly "if money gets no tighter."

Sylvania Electric, like a number of corporations and municipalities, has withdrawn a bond offering because of "unsatisfactory money market conditions." Sylvania says its planned \$25-million issue of 30-year debentures will be shelved indefinitely.

New offerings for early this year continue to swell, making the first quarter look like a sure record (BW-Dec.29 '56,p74). Directors of Illinois Bell Telephone Co. have authorized a \$40-million issue of first mortgage bonds. . . . Rohr Aircraft Corp. plans a \$7.5-million convertible debenture offering. . . . Anaconda Co. directors have tentatively approved a new capital stock issue. No amount was announced, but one Wall Streeter says "It will be well into eight figures."

Amidst the raft of smaller issues already announced for this month, will come a blockbuster: The International Bank for Reconstruction & Development plans to offer a \$100-million 20-year bond issue. Like any other borrower, the World Bank has had to tailor the bonds to fit lenders' stiff demands. They will be non-callable for 10 years, and payments for the bonds can be delayed to give institutional buyers their choice of delivery dates. A 15-year 3 1/4% issue sold two years ago is currently selling around five points below par, at a yield of around 4%; the new issue will probably be priced around 4.40%.

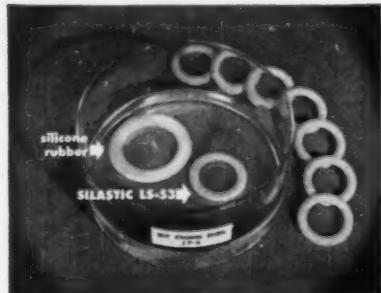
## SILICONE NEWS

DOW CORNING

# New Silicones Solve Old Problems

- New fluorosilicone rubber resists jet fuels, solvents, heat and cold
- Silicone-glass laminates superior to light metal for high temperature use
- Invisible silicone surface for glass containers speeds bottling, packing

**FLUOROSILICONE RUBBER** — is a new kind of heat and cold resistant rubber developed by Dow Corning research chemists in conjunction with the Materials Laboratory of Wright Air Development Center. Identified as Silastic LS-53\*, it stays rubbery at temperatures from -80 to 400 F . . . but most remarkable feature is its outstanding resistance to the fuels, oils and solvents that limit the use of ordinary rubbers.



As illustrated, O-rings made of Silastic LS-53 swell only 20% when immersed in an aromatic jet engine fuel while those made of the best general purpose silicone rubbers swell over 200%. Presently limited to use in essential Air Force applications, new fluorosilicone rubber should help solve many problems for commercial aircraft, chemical, petroleum and automotive industries . . . wherever rubber parts are exposed to oils, solvents and extreme temperatures.

\*T.M. REG. U.S. PAT. OFF.

No. 40

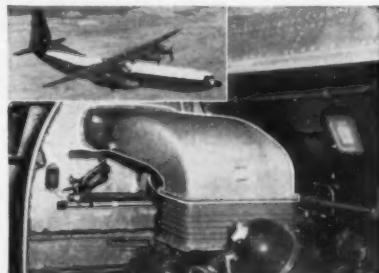
**"WHAT'S A SILICONE?"** — is answered in a documentary movie available free of charge for showings to industrial management, production and engineering audiences. In full color and sound, this informative 16 mm film shows silicones in action . . . helping designers, improving products, solving production and maintenance problems.

No. 41

**WHERE THE SPOTS HOT** — a growing number of designers and materials engineers are specifying silicone-glass laminates in place of metal parts. Here's why: laminates made with glass cloth and Dow Corning silicone resins retain a higher strength-to-weight ratio at "hot" temperatures than many light metals; another reason—large and complicated pieces are easier to shape—simple plaster forms replace dies required to fabricate metal parts.

Typical application: Ducts used in the heating and air conditioning system of the C-133, a giant military turbo-prop transport now in production at Douglas' Long Beach Division. Tests prove the silicone-glass laminate ducts withstand jarring punishment, like engine backfiring, that might split stainless steel ducts. Many other promising commercial applications now in development.

No. 42



FOR MORE INFORMATION on silicones used in these applications, circle reference nos. in coupon.



ATLANTA BOSTON CHICAGO CLEVELAND DALLAS DETROIT LOS ANGELES NEW YORK WASHINGTON, D.C. (DAVISON SPRING, N.Y.)  
CANADA: DOW CORNING SILICONES LTD., TORONTO  
GREAT BRITAIN: MIDLAND SILICONES LTD., LONDON  
FRANCE: ST. GOBAIN, PARIS

**NO MORE JAM-UPS** — A durable, invisible "silicone surface" for glass bottles and jars permits food packers and volume bottlers like Pepsi-Cola to get greater output from filling equipment. Treated bottles have better "slip", so there is less wedging and jamming on filling lines. The Dow Corning silicone surface also provides greater resistance to bruising and scratching . . . thus, line breakage is sharply reduced; appearance and life of all types of glass containers is improved. Applied to exterior of new containers by glass manufacturers, the silicone surface is available at little or no extra cost.

No. 43



**TREAT FOR FEET** — Shoe Saver, silicone water repellent for do-it-yourself application to all kinds of shoes and boots . . . leather, canvas, suede . . . is proving to be a popular repeat item at shoe counters, repair shops, sporting goods stores. Just swab it on—Shoe Saver keeps feet dry . . . keeps leather soft so shoes stay comfortable . . . protects against water and waterborne stains, keeps shoes new looking longer. Retails at \$1.00 a bottle—enough for 2 to 4 pair of shoes.

ALL NEW — 1957 Guide to Dow Corning Silicones has just been released. Completely indexed, this illustrated 12-page reference contains up-to-date information on properties and applications for silicones of most commercial interest.

No. 44

Dow CORNING CORPORATION, Midland, Michigan.  
Dept. 2213

40 41 42 43 44

Name \_\_\_\_\_

Title \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_

# Skyways WITHOUT Runways

A small clearing in the jungle . . . an ice floe in the arctic . . . a mountain plateau—a cruiser deck, a rooftop—these are some of the airbases of Vertol aircraft.

Free from the soaring dimensions of distant airfields and costly runways, Vertol helicopters land on the spot.

Another example of how Vertol aircraft can land vertically, without the need for a runway or a landing strip, is the Vertol V-1200. This high-speed aircraft is being taken to its ultimate, perhaps high-speed aircraft capable of vertical takeoff and landing.

Discover the Vertol aircraft engineering team!



**VERTOL**

Aircraft Corporation

MORTON, PENNSYLVANIA

FORMERLY PIASECKI HELICOPTER CORPORATION

# INTERNATIONAL OUTLOOK

BUSINESS WEEK  
JAN. 5, 1957



The Kremlin has decided that its de-Stalinization policy wasn't such a hot idea after all.

At a New Year's reception in Moscow the leading de-Stalinizer, Nikita Khrushchev, started putting Stalin back into his good books—as a "great Marxist" and a "great fighter against imperialists."

To underline his own reconversion, Khrushchev declared: "When it comes to fighting imperialists, we are all Stalinists."

This shift in the party line doesn't necessarily mean that the Kremlin plans to go back to an all-out cold war against the West. It's unlikely, for example, that Moscow will do more than step up its propaganda in reply to the new U. S. policy in the Middle East (page 31).

Where the shift will count for most is inside the Soviet empire. In the Russian Communist Party there will undoubtedly be a return to Stalin's strict centralism. And in Eastern Europe there will be an end to the principle of "different roads to socialism." In fact, Moscow is now waging a determined campaign to debunk "national Communism" of the Tito and Gomulka variety.

As the Kremlin tries to reestablish Communist conformity, this is the strategy it is likely to follow in Eastern Europe:

- **Khrushchev's reconciliation with Tito is a dead letter.** The Yugoslav leader is supposed to keep his brand of Communism strictly to himself. And if he leans too heavily on the U. S. for aid, he will have to forfeit the economic assistance Moscow has promised him.
- **The Gomulka brand of Communism in Poland will be no more than tolerated.** In fact, the Polish leader will be kept under constant pressure to modify his domestic and foreign policies according to the new Soviet line.
- **The other satellite governments will get economic concessions—but only in return for tightening up Communist political controls.**

Washington isn't much impressed with the Kremlin's attempt to put on a show of strength. You could see this in the way Pres. Eisenhower this week brushed off the proposal for a summit meeting on disarmament that Bulganin made last November.

**The Khrushchev-Bulganin regime looks more and more like a bankrupt outfit, with a relatively short lease on life.**

It is still not clear just how drastically the current five year plan is being revised (BW—Dec. 29 '56, p27). But Western experts figure that the cutback from planned 1960 goals will be very substantial.

As for Soviet foreign policy, there is little chance that Moscow will provoke a showdown either in the Middle East or in Central Europe. At least that's the current estimate in Washington.

— • —

Under the political surface in Britain there are signs that a real shakeup may be coming in the Conservative Party—one that will put the young Tories in charge of the British government.

Until recently it had been assumed that Prime Minister Eden would be stepping down soon in favor of his deputy, R. A. Butler, or Chancellor

# INTERNATIONAL OUTLOOK (Continued)

BUSINESS WEEK  
JAN. 5, 1957

of the Exchequer Harold Macmillan. But now it seems that the party is too badly split to settle on either of these men as Eden's successor. That fact, among others, has many Conservatives turning to the idea of picking a new leader from the next generation—perhaps Duncan Sandys, Housing Minister, or A. T. Lennox-Boyd, Colonial Secretary. Peter Thorneycroft, Pres. of the Board of Trade, would be Chancellor of the Exchequer.

It will take a real party revolt, though, to put the young Tories on top—and a tough fight to get Butler and Macmillan to retire to the House of Lords.

—•—

Indian officials are busily engaged in drawing up plans for a World Bank mission, due to arrive in New Delhi this month. All told, India's planners will ask the Bank for over \$1.1-billion.

Because they expect to get the biggest part of this sum, officials in New Delhi are not unduly worried over the continuing heavy withdrawal of India's sterling balances from London. Since April the figure has totaled \$420-million.

But another \$280-million will probably be withdrawn by the end of this year. A big hunk of it will be needed to pay for the German-built government steel mill.

Indian sources insist this doesn't mean Indian planning has gone off the rails. They say that New Delhi simply is using up its sterling assets first, then counts on U. S., World Bank, and other aid to see them through the remaining three years of its five-year plan.

—•—

London reports that Peking has cancelled some \$300-million worth of heavy machinery orders it had placed in Russia, East Germany, Poland, and Czechoslovakia. It's a safe guess that the cancellations are, in part, a result of the economic difficulties Eastern Europe now faces. But there are also indications that Red China's Second Five Year Plan has run into troubles.

A recent Peking policy statement calls those who plump for heavy industry development at the expense of living standards "foul enemies of socialism." In the same vein is a report that Peking's first huge tractor plant, scheduled to start production this year, will be turned to making light machinery.

Tractors, apparently, are to be imported from the West. Massey-Harris-Ferguson's British company has already sold the Chinese 100 light tractors, expects to see this trial order multiplied many times. Peking also seems to be interested in buying light machinery, for consumer goods, in Britain and Western Europe.

—•—

Britain's aircraft industry, first up then down, was feeling something like a rosy glow this week.

- Estimates of the industry's exports for 1956 indicate they hit a record \$294-million.

- To start 1957 off with a bang, Canada's government-owned Trans Canada Airlines plunked down \$67.1-million for 20 turboprop Vickers Vanguards. (This is a large-sized "cousin" to the Viscount.)

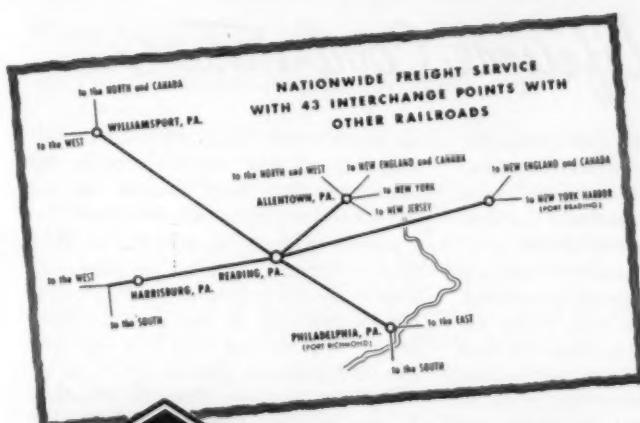
- First tests of Bristol's turboprop Britannia 301—what British engineers call the world's largest economical aircraft—have gone well.

Contents copyrighted under the general copyright on the Jan. 5, 1957, issue—Business Week, 330 W. 42nd St., New York, N. Y.

When the going gets tough . . .

# DEPENDABLE SERVICE

gets you through!



It's a treacherous, snow-filled night—the kind that jams up traffic and halts movement. But on the Reading, wheels continue to move smoothly. That's why shippers all over the country are using this *outstanding* freight service. They know no matter what the weather or the condition . . . the dependable Reading *delivers* the goods.

Take advantage of this *complete* and *efficient* freight service . . . ship via the Reading!

Reading  
Lines

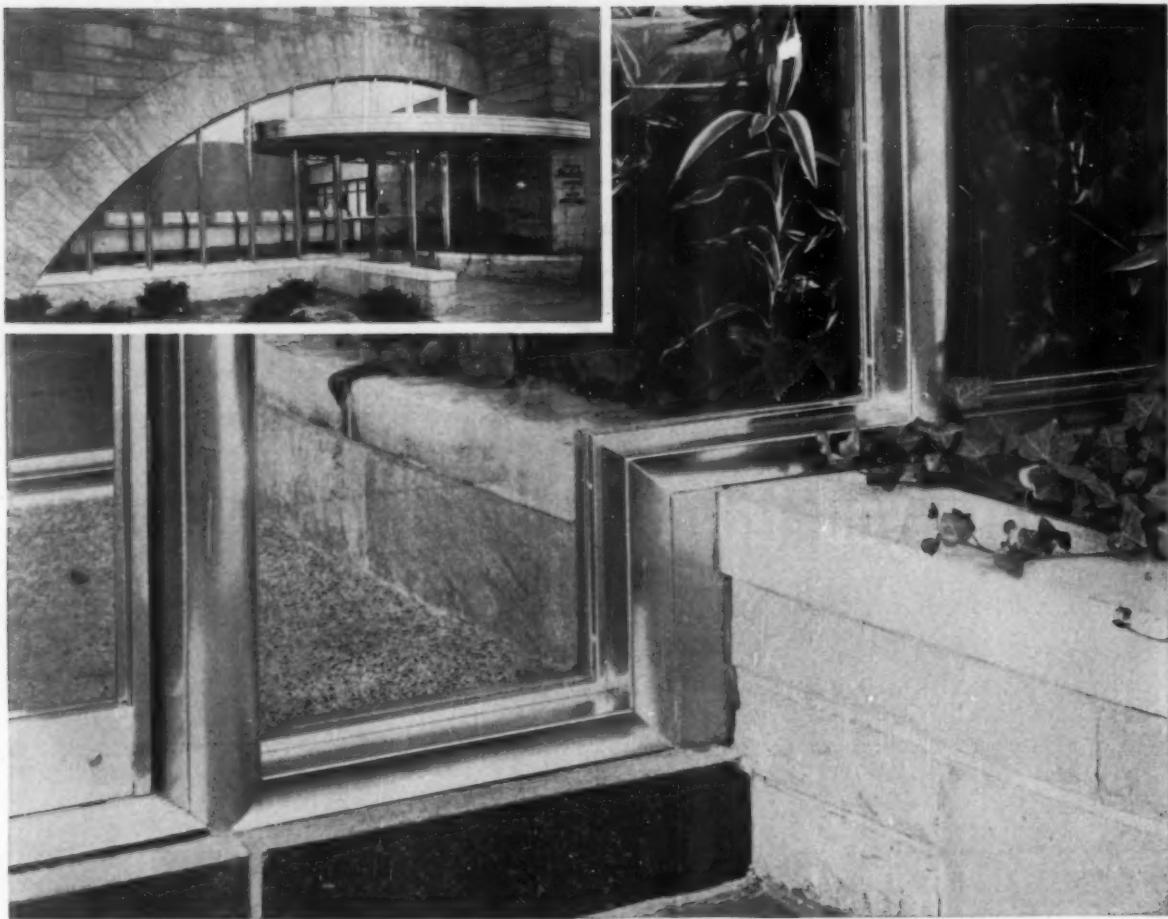
## READING RAILWAY SYSTEM

SALES and SERVICE

Get Valuable Routing Assistance To and From the Eastern Seaboard  
By Reading Traffic Representatives Nearest You

ON-LINE: Philadelphia, Pa. • Wilmington, Del. • Trenton, N.J. • Reading, Pa. • Allentown, Pa. • Harrisburg, Pa. • Williamsport, Pa.

OFF-LINE: Boston, Mass. • New York City, N.Y. • Atlanta, Ga. • Buffalo, N.Y. • Pittsburgh, Pa. • Cleveland, Ohio • Cincinnati, Ohio • Detroit, Mich. • Chicago, Ill. • St. Louis, Mo.



## STONE and STAINLESS STEEL

### *Happy Lifetime Combination*

#### "INFO" for Architects and Builders

1 "AL Stainless Steels for Building"—12 pages on stainless grades, properties, forms, finishes, standard "specs," uses and advantages.

2 "Stainless Steels for Store Fronts and Building Entrances"—40 pages of valuable data on examples and details. AIA File No. 26D.

3 "Stainless Steel Curtain Walls"—A 24-page progress report on methods. AIA File No. 15-H-1.

*Write for Details*  
Address Dept. W-85

Here's an intriguing entrance design for a recently-built midwestern structure. Stone and stainless steel and glass... a planter that continues inside... two sweeping curves in opposed planes.

If there's any other material that can match the ageless, everlasting qualities of stone, it's *stainless steel*. Use it for its hardy, perennial beauty, that neither smoke, fumes nor weather can impair. Use it for its remarkable strength, greatest of all the structural metals. But above all,

use stainless steel because it wears so well and lasts so long that it's actually the most economical metal you *can* use... the least expensive in the long run.

Keep it in mind, too, that A-L Stainless Steel is versatile—you can employ it in your structures in everything from building hardware to an entire curtain wall design. • If we can help you with any data or engineering assistance, call on us. *Allegheny Ludlum Steel Corporation, Oliver Building, Pittsburgh 22, Pa.*

For Stainless Steel in ALL Forms—call

# Allegheny Ludlum

Warehouse stocks carried by all Ryerson Steel plants

WSW 6059



# In Washington

## AEC and Three Unions Lock Horns On Licensing Procedure for Atom Projects

The controversy over a proposed atom power plant for Detroit is coming to a head. A hearing scheduled to start Jan. 8 will lay out the rules by which the Atomic Energy Commission will handle license applications for this and later atom projects that are in dispute.

At issue is a construction permit granted by AEC last fall to Power Reactor Development Co. for a nuclear project at Monroe, Mich., not far from Detroit. Three labor unions—United Auto Workers, United Paperworkers, and International Union of Electrical Workers—have protested that the project will be hazardous to the public.

Heart of the unions' complaint is that AEC acted contrary to law in issuing the construction permit for the Monroe site. AEC's response is that the differentiation between a construction permit and an actual operating license must be recognized—and that the company must satisfy rigid safety standards before it can ultimately win a final license to turn on and operate its proposed reactor.

An AEC hearing examiner will conduct this round of the running legal battle, which is headed for federal courts if the unions fail to make their point in the commission's proceedings.

One side issue has partially resolved itself. At the outset, the unions demanded access to some AEC data that were then restricted. Since then, AEC has issued a new declassification guide covering a good portion, if not all, of the documents sought by the labor groups.

## White House Posts Help Wanted Sign To Fill a Dozen-Odd Policy-Level Jobs

As 1956 ended, the Eisenhower Administration had the Help Wanted sign hanging out on several sub-Cabinet and other key policy-level jobs in Washington.

One of the biggest jobs vacant at yearend was that of Under Secretary of Labor. Arthur Larson, formerly No. 1 aide to Labor Secy. James P. Mitchell, has moved over to head up the U.S. Information Agency. Also vacant in Labor is an Assistant Secretaryship, vacant for three years because AFL-CIO—for which it was "reserved"—has refused to nominate anyone for it.

In the Interior Dept., the Under Secretary's job also swings open through resignation of Clarence Davis.

A random look around the Capital shows these, among others, also wanting for occupants:

**National Labor Relations Board:** one seat open since August. Francis X. Ward, general counsel of the Carpenters Union, is a possibility.

**Commerce Dept.:** Under Secretary for Transportation open this week as Brig. Gen. Thomas B. Wilson becomes chairman of Johnson Motor Lines, Inc.

**Civil Aeronautics Board:** one seat open, for a Democrat, to replace Joseph P. Adams.

**Health, Education & Welfare Dept.:** two Assistant Secretaryships open. Also vacant: chief of the Children's Bureau, resigned Dec. 31, by Martha Eliot.

**State Dept.:** Main home office job open is that of counselor, high in the chain of command, being given up by Douglas MacArthur II, designated to be Ambassador to Japan. In diplomatic service, Eisenhower probably will be looking soon for new ambassadors to Yugoslavia and free Germany, possibly to Russia as rumors multiply that Charles E. Bohlen will resign.

Inside the White House, Eisenhower is shy two special assistants due to the resignations of Thomas Pike (Congressional liaison) and William Jackson (foreign affairs). It's likely that the President soon will have to look for a new Defense Mobilizer. Arthur S. Flemming has been quoted as telling friends he will resign in 1957 to return to his job as president of Ohio Wesleyan University.

## Soil Conservation Figures Confirm Need For a Broader Drought Relief Program

This week, the Agriculture Dept.'s Soil Conservation Service set the stage for Pres. Eisenhower's coming tour of the drought-striken Southwest. It released a report showing, statistically, that **drought conditions in the 10-state Great Plains region are the worst in history.**

By Dec. 1, the report says, nearly 2-million acres of land had been damaged by wind erosion since the "blow season" began in November. A year ago, only 353,000 acres blew in the first month of the season.

The worst of the report is concerned with the potential in the months just ahead, when the western winds rise to their late winter and spring peaks. The service figures that, as of now, more than 20-million acres are powder dry and subject to being whipped up into black dust storms.

Eisenhower and Agriculture Secy. Ezra T. Benson plan to fly to the drought country in mid-January for a three- or four-day tour. This will be followed—probably early in February—by presentation to Congress of a new drought relief measure that Eisenhower has already promised will be much better than any now on the books.

## Oil Operators Will Bear the Brunt Of Anti-Pollution Law Test Case

The new federal anti-pollution law is moving toward its first test, with oil operators as guinea pigs.

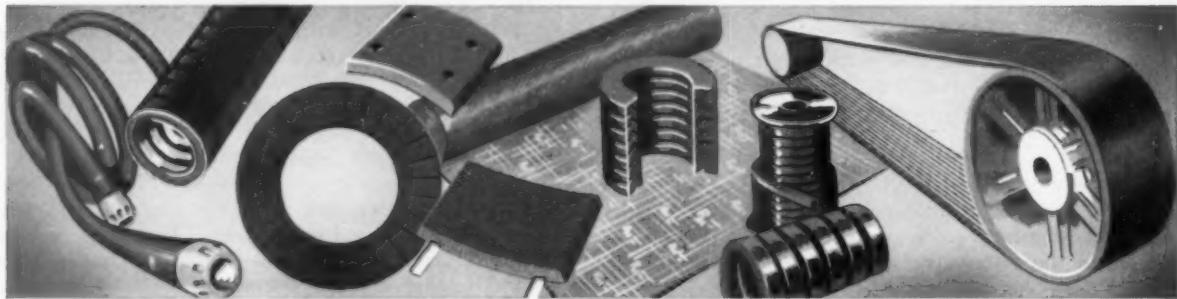
A panel of federal and state officials will hold hearings beginning Jan. 16 at Homer, La., on complaints that discharge from 18 oil wells (located in Arkansas) is fouling waters of the Corney Creek drainage system which flows into Louisiana's Corney Lake.

If the hearing panel upholds the charges, the case can lead to two final steps: (1) a Public Health Service order for the well operators to cease the polluting discharges within a specified time, and (2) if that order is not obeyed, a Justice Dept. petition in federal courts for an injunction.

Whoever You Are... Whatever Your Business... An R/M Product Touches Your Life



**R/M PRODUCTS ARE EVERYWHERE** in the petroleum industry, from the start of drilling to the refineries—out of which come gasoline, fuel, butane, propane and other by-products—and on to the points of distribution.



**SOME OF THE R/M PRODUCTS** used in the petroleum industry include rotary and loading hose; brake blocks, linings and clutch facings; mechanical packings and gasket materials; POLY-V® drives.

## R/M Works Closely with the Petroleum Industry to Cut Costs

From the moment a drilling rig goes "on location" to the delivery of fuel oil, gasoline, butane, propane and other products to thousands of industries and countless homes everywhere, R/M products are constantly at work in the petroleum industry. On the rig, R/M Brake Blocks, Rotary and Slush Pump Hose, and Vee-Square® Rod Packings help "make hole" faster and safer. R/M Poly-V Drives or V-belts transmit power more efficiently to big slush and oil pumps. Petroleum products flow in and out of tankers through giant R/M Loading Hose as they go to and from refineries. In the refineries, R/M products are everywhere... R/M Hose of many kinds carrying fluids and gases; R/M Packings and Gasket Materials sealing in pressures; R/M "Teflon" Gaskets, Couplings and

Hose handling corrosive fluids. Fleets of tank trucks carrying the final petroleum products depend on R/M Tank Truck and Fuel Oil Hose for dispensing. And they rely, as do millions of passenger cars, on the safe stop-and-go operation provided by R/M Brake Blocks, Brake Linings, Clutch Facings and Automatic Transmission Friction Parts.

Not only the petroleum industry, but hundreds of other industries as well depend on the economical, reliable products and specialized skills of Raybestos-Manhattan. R/M keeps seven great plants and laboratories working in four big fields— asbestos, rubber, engineered plastics, and sintered metal. Take advantage of this experience. Talk it over with R/M if your problem involves any of these materials.

**RAYBESTOS-MANHATTAN, INC. PASSAIC, NEW JERSEY**

**Raybestos... Condor • MANHATTAN... Grey-Rock**

**SPECIALISTS IN ASBESTOS, RUBBER, SINTERED METAL, ENGINEERED PLASTICS**

Other R/M Products: Asbestos Textiles • Engineered Plastics • Sintered Metal Products • Abrasive and Diamond Wheels • Industrial

Rubber • Conveyor Belts • Rubber Covered Equipment • Industrial Adhesives • Laundry Pads and Covers • Bowling Balls

Factories: Passaic, N.J. • Bridgeport, Conn. • Manheim, Pa. • No. Charleston, S.C. • Crawfordsville, Ind. • Neenah, Wis. • Peterborough, Ontario, Canada



**Haridas Mundhra (right) is one of India's rising stars in business. At 32, he manages a varied industrial empire. But the threat of expanding government controls and companies hangs over him as over other Indian free-enterprisers.**

## Indian Businessmen Facing New Tests

**A** FEW DAYS AGO in New York, India's socialist Prime Minister Jawaharlal Nehru told the Far East-America Council on Trade & Industry that his country is searching for a new pattern of economic development. Nehru promised his listeners—as he has often at home—that his government stands for a balanced partnership of private and government enterprise.

There's many an Indian businessman who would question if this balance is being preserved. Still, despite growing state controls and state trading, Indian business has never been so prosperous. The industrial revolution in the country (BW—Apr. 7 '56, p119) has created tremendous activity. Giant government irrigation and heavy industry schemes have forced-fed the economy, providing vast opportunities for private enterprise.

• **Question**—The question that bothers some Indian businessmen—and many foreign observers—is whether they can maintain their place as the economy expands. Nehru's dedication to the principle of mixed economy isn't always shared by all of the government's policymakers.

And even Nehru has warned that the principle of private property isn't sacrosanct, that private enterprise will always have to answer the question of how useful it is in India's drive to industrialize and raise its living standards.

• **One Man's Answer**—Haridas Mundhra (picture) offers one answer to this question. Although still relatively unknown, he is rapidly becoming one of India's most powerful business leaders.

In his relatively short career—he's only 32 years old—he has put together an empire that includes electrical manufacturing, coal mines, tea plantations, sugar mills, construction, and drugs.

• **Moneylender**—Mundhra, for all his new found success, is operating in the traditional fashion of members of his caste, the Marwaris. Like the leaders

of the giant Birla empire (BW—Jul. 30 '56, p90), Mundhra's family is descended from the moneylenders of Marwar, in central India.

As British influence has declined in Calcutta, Mundhra and many of his fellow Marwaris have moved into fields where British-owned or British-managed companies formerly held sway. Britain's heavy inheritance taxes have often forced liquidation of holdings in Indian companies, the transfer of sovereignty has prompted some British businessmen to quit the country, and India's economic growth all have provided new vistas for Indian businessmen.

• **Fast Rise**—Mundhra tells the story in a nutshell: He says that when he went into his father's business at the age of 10, total sales were about \$1,000. Today, he says, they are \$10.5-million—big business in Indian terms.

One British businessman in Calcutta says Mundhra "has an uncanny knack of doing the right thing at the right time." That's the best explanation of how he turned his father's pre-World War II electrical manufacturing business into his present empire. During the war, Mundhra figured that, just as India's textile industry was built during the American Civil War, the shortages created by World War II would push its construction and manufacturing.

That's why in 1946, he acquired control over Calcutta's two most important engineering firms—Jessop & Co., Ltd., dating back to 1788, and Richardson & Cruddas, Ltd. Later he acquired control of Duncan Stratton & Co., Ltd., a major contractor to the city of Bombay and the Damodar Valley Authority. Last year he acquired control of British India Corp. (paid-up capital, \$8-million), a giant holding company. • **Capitalizing**—Nobody knows where Mundhra rounds up the capital to get control. An informed guess: from fel-



low Marwari speculators in Calcutta. He operates all the enterprises through the managing agency system. This is a corporate form peculiar to India, originally intended to give British investors far away from their investments assurance they would be properly handled. In more recent times, it has become a holding company for investment of both British and Indian capital.

This development has given Indian business a source of capital in a capital-short economy. But it has also led to abuses—for example, speculation with managing agency funds without the stockholders' consent. Last year the Indian parliament passed a law reforming the managing agencies, forbidding them after 1960 to hold more than 10 companies.

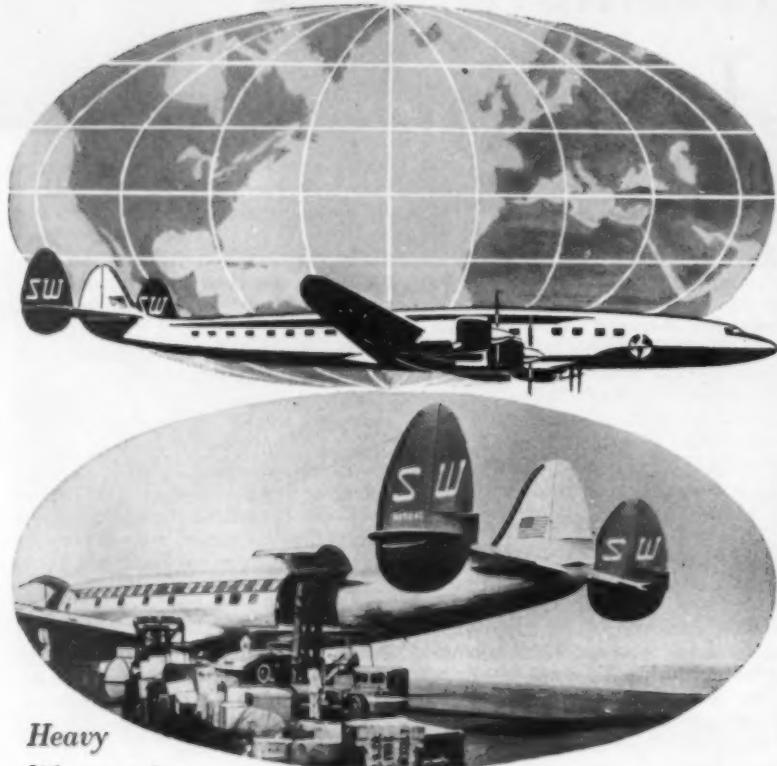
• **Optimist**—Yet Mundhra, like the Birlas, remains blissfully optimistic. He sees India's planned rapid economic development as a chance to expand private enterprise—despite emphasis on government ownership of heavy industry.

New British investment (it grew from \$440-million to \$728-million in the five years after independence, probably has grown even faster in the past three years) is going into heavy industry and joint government-private undertakings. That leaves traditional British Indian businesses such as commodities, construction, and banking, to the Indian business community.

The big question is whether moneylender methods—low volume, high profit—will suit India's needs as it moves into a new economic era.

Foreign observers of the Indian economy are saying that Mundhra and others like him will not only have to shift into new fields but will also have to come up with new methods if they aren't to add fuel to the anti-free-enterprise fires already burning in New Delhi. **END**

**NOW... FASTEST DAILY\***  
**TRANSATLANTIC AIRFREIGHT**  
**VIA SEABOARD**  
**SUPER CONSTELLATIONS!**



*Heavy  
lift capacity*

*400,000 lbs. weekly... Daily  
scheduled flights each way...  
Fastest all-cargo schedules  
aboard world's only fleet of  
Lockheed Super Constellation  
Freighters*

Cut hours from your delivery schedules. Seaboard Airtraders will fly your freight faster than most passengers travel. Only Seaboard offers this daily, super-speed service aboard all-cargo Lockheed Super Constellations... largest, fastest freighters in the sky. Get your freight there first *at no extra cost*... Fly it Seaboard! Contact your Freight Forwarder, Railway Express or call Seaboard Airtrader Service.

**Europe • Middle East • Far East**

**SEABOARD & WESTERN AIRLINES**

80 Broad Street, New York 4, N.Y. • Whitehall 3-1500  
 1001 Connecticut Avenue, N.W., Washington 6, D.C. • Republic 7-1430

*Foreign Offices in 22 Major European Cities  
 Only Scheduled Transatlantic All-Cargo Airline*



*\*Monday through Friday*



## Americans

On the outskirts of Naples, in southern Italy, is a new plant built by Alesco S.P.A. The plant (pictures), the idea of two Americans—Harry Sugar, president of Alesco, Inc., Akron, and Joseph S. Silber, a Cleveland attorney—has been mass-producing aluminum doors, window frames, and irrigation pipe primarily for the Italian construction trade since last summer. So far it has been a big success.

The plant's location is unusual. An aluminum fabricating plant is one of the last things you would expect to see in southern Italy—a region of poorly worked farm land.

• **Government Help**—Even more unusual is the way in which the plant was financed. Cassa del Mezzogiorno—the Italian government's fund for Southern Italy—put up the bulk of the money. It loaned Alesco S.P.A. \$320,000 for a 10-year period. And in so doing, Cassa has shown how more U.S. companies can get help to set up shop in Italy's underdeveloped southland.

A diagonal drawn across Italy from just below Rome northeast to the Adriatic Sea separates Italy's prosperous north from the poverty-stricken south. The backward south has long been a drag on the country's whole economy.



## Get Idea; South Italy Gets Plant

Almost a third of Italy's 45-million people live there. Yet 24% are illiterate. Their per capita income is only \$150 compared with the north's \$550. In the region are about 50% of Italy's 1.9-million chronically unemployed. After the war, the Catholic Church helped keep most of the downtrodden farmers in the south from swinging to Communism. The Italian government also realized it would have to step in with financial aid.

Since 1950 the \$2.1-billion Cassa fund has been financing the south's economic development. About 70% of the funds go for land reclamation and farm mechanization, the rest for industrialization. The program also calls for stimulating private business investment in the region.

• **New Company**—Alsco S.P.A. fits right into the Cassa scheme. When Sugar visited Italy in 1952, his purpose was to buy aluminum for his U.S. company. With him on the trip was Silber, a long-time friend who had served in Italy during the war. The two men saw the booming market in Italy for construction materials. They decided to form an Italian company, patterned after Sugar's Alsco, Inc., for producing aluminum doors and windows.

In the beginning, the two men ran into various snags. For one thing, Italian businessmen whom they tried to tap for financial help could not understand Sugar's business approach. He envisioned high production volume, mass

distribution, and a low profit margin (compared with the usually high Italian margins). On top of that, some aluminum companies—giant-sized Montecatini, among them—reportedly put on pressure to keep Sugar and Silber



**BOSSES** Harry Sugar (left) and Joseph S. Silber (right) discuss U.S.-built extrusion press with Italian foreman in Neopolitan plant.

HOW NYLOK® LOCKS:



LOCKED! The tough, resilient nylon pellet keys itself into the mating threads, locks the screw securely.

## New UNBRAKO socket cap screw locks itself, won't work loose

Eliminates costly wiring • Simplifies design • Reduces assembly time



"Plastic memory" of the nylon pellet makes self-locking UNBRAKO cap screws reusable many times.

UNBRAKO socket head cap screws with the Nylok® locking feature are the first truly practical solution to the problem of making screws self-locking. Seated or not, they lock positively wherever wrenching stops.

A self-locking UNBRAKO socket screw is a single unit. This saves production time, because the number of parts you must assemble to get full locking action is reduced to the absolute minimum. Lockwashers under screw heads are no longer necessary. UNBRAKO cap screws with Nylok eliminate expensive wiring of cross drilled heads and are also burr-free. They simplify design.

A complete line of self-locking UNBRAKO socket screw products, in a wide range of standard sizes, materials and finishes, is available through authorized industrial distributors. Technical data and specifications are detailed in Bulletin 2193. Write us for your copy today. Unbrako Socket Screw Division, STANDARD PRESSED STEEL CO., Jenkintown 57, Pa.

\*T.M. Reg. U.S. Pat. Off., The Nylok Corporation

STANDARD PRESSED STEEL CO.

UNBRAKO SOCKET SCREW DIVISION

**SPS**  
JENKINTOWN PENNSYLVANIA

from setting up an aluminum fabricating plant.

But the Italian government warmed to their proposal. It easily coaxed the two men into locating their plant in the south. By building there, they could import U.S. equipment duty-free. By producing there, they would not have to pay taxes on profits for years. Besides these enticements, the government's Cassa fund was willing to grant a \$320,000 loan through the Banco di Napoli.

As stock interest, Sugar and Silber together put up about \$55,000. Then they got businessmen in Milan and Rome to ante up about \$110,000. With all this money, Sugar and Silber formed Alasco S.P.A. as an affiliate of Alasco, Inc. Under the arrangement, the two men get a royalty on gross sales and a percentage of profits. Silber is president; Sugar, a director.

• Local Operation—The new company is primarily Italian—with Dr. Giuseppe Busnardo, formerly at Montecatini, as its managing director. True, the biggest piece of equipment in the Naples plant is a \$170,000 extrusion press built by Lombard Corp., Youngstown, Ohio. But the 125 workers are all local Italians, and the stock is 70% Italian-owned.

The company's operation is similar to its U.S. namesake. Alasco, Inc., formed in 1945, is now one of the leaders in the aluminum frame and siding business; it grosses around \$15-million. It makes aluminum products from ingot to final assembly, sells in the U.S. and also in Canada (where it has operated a plant for four years).

• Sales Picture—For Alasco S.P.A., Italy of course is the biggest market. It is already selling there at the rate of \$1-million yearly and eventually hopes to reach \$3-million. To boost production, both the U.S. and Italian partners have put up more money, so that the total investment is now around \$1-million.

• Spreading Out—Alasco, Inc., is also using the Italian company as a base for exporting to other countries. The affiliate not long ago shipped a \$100,000 order to Venezuela. And Sugar has high hopes for setting up manufacturing plants in other countries. Right now, Alasco's new French company is building a plant—despite the opposition of French aluminum fabricators.

Sugar says that even with the Italian government's help, making a go of it in Italy isn't easy. For one thing, customers are generally months late in paying bills, putting a big load on Alasco's own pocketbook to finance continuous production. At the same time, the Italian project has given Sugar a few surprises. He doubted, for instance, that Italians could make precision dies for the extruding process. Now he says: "They're top-notch engineers and craftsmen." **END**

# In Business Abroad

## Japanese Devise New Voluntary System Of Quotas on Cotton Textile Exports

The Japanese are expected to announce the details of their new "voluntary" export quota system for cotton textiles to the U.S. any day now.

According to information now available, the export total will be kept to roughly the 1955 levels. Exports of velveteens and ginghams will be cut back slightly from that level. And the Japanese promise to distribute their exports to the U.S. as evenly as possible over all four quarters—instead of pouring it on in the fourth quarter, as has happened in recent years.

The big difference will be Japan's effort to diversify its textile exports to the U.S. The new quotas will take effect as of Jan. 1, remain in effect for five years. They are "voluntary" in the sense that the Japanese government is applying them to its own industry, and the U.S. won't have to sign any treaty to enforce them. Washington is satisfied that the Japanese will live up to them, once agreement is reached.

Months of tough bargaining have preceded the announcement. The big hassle has been over the different interpretations that Washington and Tokyo have put on 1955 exports to the U.S. The Japanese based them on Japanese exports, U.S. on American imports. Since there is roughly a two-month lag in shipments, and since exports in the last two months of the year were much higher than the monthly average for the whole year, the Japanese over-all figure for 1955 is much higher.

Nobody is happy with the compromise that is finally being worked out. U.S. textile men would certainly have liked lower quotas (BW—Sep. 22 '56, p118). The Japanese, for their part, are afraid the agreement will bring on the same kind of demand from other countries.

## Anaconda-Chile Signs for 15 Months; U. S.-Canadian Plan for Cellulose Mill

Another good sign came from Chile's long embattled economic front this week: Anaconda Co. has signed a new wage agreement with the workers at its huge Chuquicamata operation.

Details of the contract aren't available yet, but the bare fact that it has been negotiated without a strike, violence, or government interference is news in Chile. The contract is also for 15 rather than 12 months, has been signed with a union that represents all the miners instead of with craft unions.

The new contract will cost Anaconda about 1.5-billion pesos a year extra (about \$3,043,000). It calls for a 25% wage increase and additional fringe benefits.

If labor peace can be maintained, however, that may be a bargain price for Anaconda. Anaconda's Chmn. H. Glover, in Chile a few days before the contract was drawn, spoke optimistically. He said Chile's 1956 copper pro-

duction ought to be 440,000 tons—about 50,000 tons over 1955.

Meanwhile, the Chileans had some good news on another front: K. F. Landegger, president of Parsons & Whittemore, Inc., of New York, announced plans in Santiago for a \$350,000 Chilean cellulose plant. It would begin operations in two years. It's the fruition of studies that Parsons & Whittemore and other U.S. and Canadian firms have been making for several years into the possibilities of developing forest resources.

## Massey-Harris-Ferguson Gets New American-Born President

Massey-Harris-Ferguson, Ltd., Canada's giant worldwide farm equipment manufacturer which last summer ousted James Stuart Duncan as its boss (BW—Oct. 27 '56, p147), has announced the appointment of a new president. He is American-born Albert A. Thornbrough,



with the company since 1953. Thornbrough's appointment is part of the new look that is being given the company since E. P. Taylor, president of the Argus Corp., M-H-F's biggest stockholder, took over its active management. Thornbrough's appointment is a natural step to his lifelong career in agriculture. He graduated

from Kansas State College's agricultural school, went on to take a master's in agricultural economics at Harvard, where he taught in the 1930s. When World War II approached, he organized OPA's Farm Equipment branch, then became chief of ordnance for the Eighth U.S. Air Force. He came to M-H-F by way of Harry Ferguson, Inc., Detroit, which merged in 1953 with Massey-Harris.

## Russians Are Stalled Building

### India's Steel Mill, Official Says

That Russian steel mill for India (BW—Oct. 27 '56, p155) isn't cooking. That's what the answers of Iron & Steel Minister T. T. Krishnamachari boiled down to when he was questioned by irate legislators in India's lower house last week.

Krishnamachari put the blame squarely on the Russian consultants, said they are behind in their promises to deliver blueprints. These were due sometime in July—"after the rains"—and construction was to have begun in September. But nothing has been done. One reason: the Russian chief engineer for the project had died.

Krishnamachari also had other bad news: Like the German steel mill also being built for the government, the Bhilai plant is going to cost more than was originally projected.

# Looking at What's Ahead in



**The World Series of science—last week's meeting of AAAS—spotlighted coming developments in all branches of science, ranging from astronomy to medicine. It attracted a similarly wide range of visitors (pictures).**

THE WORLD's largest scientific society—the American Assn. for the Advancement of Science—met in New York last week to review the latest developments throughout the wide-ranging world of research. More than 16,000 attended the meetings and exhibits in seven hotels and several outlying sites. The crowd (pictures) included some of the world's most eminent scientists as well as teachers, junior enthusiasts, and just plain Joes.

Topics were equally varied. More than 1,600 technical papers were read—some broad, some narrow in scope. Audiences were kept busy moving from one meeting to another and trying to relate what they heard to their own special interests. Even the most experienced AAAS conference follower was hard-pressed to guess where the really significant news would be breaking.

• **Without Warning**—As in the research science itself, the truly significant findings sorted themselves out from the commonplace without warning.

The real news came in spurts, here and there in the vast panorama of pure science, and it may take months to appreciate all the significant discoveries that were reported.

The business of a true fundamental researcher—which most of the AAAS speakers are—is to uncover really new



*Don't trade permanence for price*

# the World of Science

information, to do something or discover a relationship for the first time in the history of the human race. It's harder to appraise his progress than that of the man who is trying to do something manifestly better or cheaper than somebody else. Each new discovery has to be put into perspective against prior developments in the field.

In this 123rd meeting of AAAS, observers were able, at most, to glimpse what the next few months and years may bring, as seen by those who are doing the most advanced thinking in all scientific fields. The outlook for 1957 includes these major developments:

## Atomic Energy

Developments in the field of atomic energy are coming at a faster pace than ever before. As a result, we will be poised for another industrial revolution and an entirely new standard of living.

According to 1951 Nobel Prize winner Glenn Seaborg, controlled thermonuclear power is probably still 5 to 10 years off. But the problems that remain to be solved are now largely engineering problems. To gain control of thermonuclear reactions, scientists will have to be able to heat a fuel to more than 100-million degrees and to maintain that

temperature long enough for fusion to take place.

In 1957, more and more previously classified information about atomic fission and atomic fusion should become public property. Scientists know that atomic power as we know it today utilizes only a tiny fraction of the energy locked into the atom. They foresee an entirely new era when that energy is put to work in such fields as the sterilization of food, the polymerization of new fibers and structural materials, manufacture of drugs, heating of homes, and the running of railroads.

The year 1957 may well go into the history books as the year when this transition began.

## Geology & Astronomy

This should be the year when man learns much more about the earth and the atmosphere around him—mysteries that have defied ages of scientific probing. For example, more than 100 scientists are already in the Antarctic for studies in connection with the International Geophysical Year.

Most spectacular of the year's breakthroughs in this branch of science, however, promises to be the launching of the first manmade earth satellite. The U.S. committee for the Geophysical

**Build for keeps  
—for less—  
with Butler**



You needn't sacrifice building permanence for low cost. Butler metal buildings combine proved engineering and construction principles with mass production. The result is lifetime durability at prices surprisingly low in terms of quality.

**To begin with,** Butler buildings are all metal—the acknowledged superior building material of the mid-twentieth century. But it is what Butler *does* with metal that puts it in a class by itself—that makes it more than just another metal building. Take two Butler features, for example.

**The Butler rigid frame.** Each frame member is of tapered design for greatest strength per pound of steel. This provides greater capacity to withstand stresses from high winds, snow loads, cranes.

**Butler die forming.** Every Butler panel is die formed for added strength. Each coincides perfectly with its mates, without makeshift tin-smithing, providing the weather-tightness of a one-piece shell.

**The list of Butler advantages . . .** the remarkable things Butler does with metal . . . the reasons for Butler's moderate prices . . . comprise a 12-page catalog—or a 30-minute film. Your Butler Builder will be glad to show you both. Won't you call him? He's listed under "Buildings" in the yellow pages of your phone book.



**BUTLER**  
STEEL PRODUCTS

## BUTLER MANUFACTURING COMPANY

7313 East 13th Street, Kansas City 26, Missouri

Manufacturers of Steel Buildings • Oil Equipment  
Farm Equipment • Dry Cleaners Equipment  
Outdoor Advertising Equipment • Special Products

Sales Offices in Los Angeles, Richmond, Calif.  
Houston, Tex. • Birmingham, Ala. • Minneapolis, Minn.  
Chicago, Ill. • Detroit, Mich. • New York, N. Y.  
Burlington, Ont., Can.



## The winner can save you money

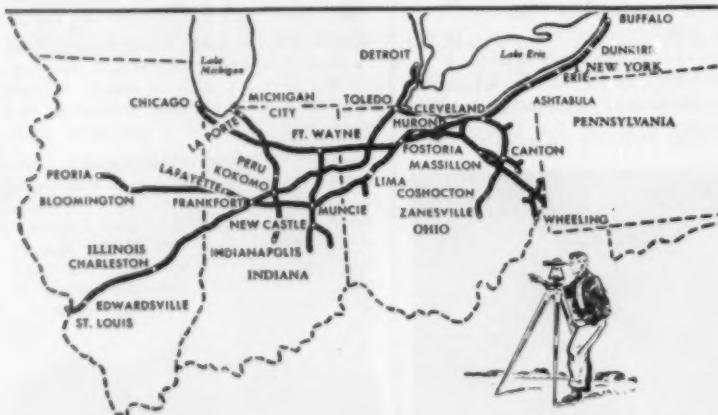
• **Case No. 608:** A New Jersey plant\* making a highly abrasive product became interested in reducing the cost of work gloves and the incidence of nuisance hand injuries. They job-tested every well known make and type of glove, under controlled conditions. An Edmont glove, costing \$10.75 a dozen, outwore all others and gave the lowest gloving cost — \$.028 per 1000 product units handled. The next longest wearing glove cost \$27.00 a dozen, equivalent to \$.08 per 1000 units handled.

**Free Offer to Employers:** We make more than 50 types of coated and treated fabric gloves to fit job needs. Tell us your operation. Without cost we will recommend correct gloves and send you samples for testing.

Edmont Manufacturing Company,  
1220 Walnut Street, Coshocton, Ohio.

\*Name on request

**Edmont**  
JOB-FITTED GLOVES



## LOOKING FOR INDUSTRIAL SITES?

Let "Nick Plate" send you our detailed and accurate "Along the Line" surveys covering natural and agricultural resources, utilities, labor and other pertinent data relating to each specific location. Just tell us the area or type of location you are interested in. Call or write:

H. H. Hampton, NICKEL PLATE ROAD  
1400 Terminal Tower, Cleveland 1, Ohio  
Phone: MAin 1-9000



Year plans to order its firing sometime after July 1.

Crammed with scientific instruments of all types, the first earth-circling beachball will aid pure science in studying ultra-violet and infra-red rays, cosmic x-rays, radio waves, etc. These studies will be invaluable in many phases of scientific research. Even more important, this exploration of the upper atmosphere and outer space is a vital preamble to man's own venture out of the earth's atmosphere and interplanetary travel.

## Physics & Chemistry

Recent developments in basic research give promise of tangible results this year.

For example, General Electric Co. has found a way to elongate iron atoms. Such elongated particles, when dispersed in plastics, rubber, or metal, produce a super-permanent magnet that keeps its magnetism 100,000 times better than ordinary iron.

Solid-state physics panelists, headed by William F. Meggers of the Bureau of Standards, said this year should bring a steady stream of similar developments, most of them with their own practical applications.

## Electronics

Both at a basic research level and in product development, the electronics field expects a banner year. And the television-phone and pocket TV set are distinct possibilities for the not too-distant future.

Three-dimensional TV should come much closer to reality this year. Much research has already been done, and several basic patents have been granted in recent months.

A sleeper for 1957 is picture-on-the-wall TV. Almost everyone in the industry concedes that the present TV cabinet with its cathode ray tube is doomed to extinction, chiefly because it takes up too much room. As a result, the word "electronoptics" will be heard more often in the months ahead. Transistors combined with atomic luminescence look like one immediately promising way of putting the TV screen on the wall.

## Anthropology

A new method for estimating the age of multimillion-year-old fossils, through measurement of their radioactivity, should make news in 1957. The method was described by William Pinson of Massachusetts Institute of Technology. It should clear up much of the doubt concerning the authenticity of certain fossils and their precise place in history. A similar means of dating

rocks has been known for some time, but scientists, until now, have been unable to adapt it to dating fossils. The problem has been that along with recovered fossils, anthropologists inevitably dig up fragments of other rocks. And any previous method of age determination has recorded the age of the oldest rock present.

The new radioactive measurement method gets around this problem.

### Biology

You're sure to hear more this year about theories of the beginning of life on earth. Nobel Prize winner Harold Urey, Stanley L. Miller of Columbia University, and others have voiced the speculation that life was sparked originally—and literally—by lightning bolts flashing through an atmosphere of marsh gas, ammonia, water, and hydrogen. These ingredients have now been exposed to manmade lightning in a test tube and have created some amino acids, the building blocks of such protein substances as flesh, nerve tissue, and hair.

Other researchers working on the same problem have theorized that a mineral such as magnetite (a magnetic form of iron oxide) was sufficient, with sunlight and water, for the spontaneous creation of life. Experiments to test this theory are under way.

### Medicine & Mental Health

Medical speakers, headed by Karl Forkers of Merck & Co., are predicting a big payoff for medical research this year. Some of their findings:

- Discovery that multiple sclerosis focuses its attack on the glial cells, the structural cells of nerve tissue. With research thus pinpointed, many doctors feel that a big break in the fight against this disease is not far off.
- Encouragement in the widespread hunt for chemical agents against cancer. Medical men are hopeful that someone in the vast army of cancer researchers will manage to turn up a "super-miracle" drug. They're also banking heavily on more purely basic research, such as last year's discovery that a hybrid virus could be produced by the crossing of two viruses. This could soon prove to be the answer to cancer as well as two other known virus diseases.

- Promise of a new diagnostic method for spotting the site of disease by analysis of enzymes in the blood stream. Such a blood test, described by a researcher at the Sloan-Kettering Institute for Cancer Research has already been developed to test the severity of a heart attack and to recognize the early signs of infectious hepatitis (jaundice). Scientists are now working on the



Wide World Photo

## Warehouse of electrical supplies lands with Operation Deep Freeze

To build four bases in the Antarctic—two main ones and a satellite for each—the task force of Operation Deep Freeze required a fully stocked warehouse of electrical materials for lighting, heating and ventilation.

Along with other suppliers of varying items, Graybar was called upon for huge quantities of electrical material from their New Haven warehouse. With Bill Hogan, Graybar Salesman, acting as coordinator, our New Haven office staff gave a big assist for source inspection and export packing. A color coding marking system was devised to keep exact quantities of material for each base separated. For several weeks the warehouse looked like a paint shop!

In the midst of this effort came a copper shortage followed by the disastrous New England floods. But with teamwork on the part of the Navy and everyone concerned, Graybar delivered right on schedule.

**Operation Deep Freeze is a tremendous undertaking. Graybar's role is cited simply to show the scope of our services. When you call on Graybar, you have at your command the nationwide facilities of a single, all-inclusive source of everything electrical. More than 100,000 electrical items for wiring, lighting, communication, ventilation and power are available from a network of Graybar offices and warehouses in over 130 principal cities. And in every electrical field there are Graybar Specialists ready to serve you whenever you require their expert assistance. We invite your inquiries—both large and small.**

637-21

GRAYBAR ELECTRIC COMPANY, INC.  
420 Lexington Avenue, New York 17, N. Y.

**CALL GRAYBAR FIRST FOR...**



**Sani-Dri**  
ELECTRIC HAND DRYERS  
**SAVE 85%**  
of needless washroom  
expense!



**Eliminates Continuing Towel Expense  
—Cleans Up Littered Washrooms!**

Automatically . . . new, faster-drying Sani-Dri Electric Hand Dryers save you money! No buying or storing of towels . . . no maintenance overhead of filling empty towel cabinets . . . emptying containers. Automatically you get cleaner, neater washrooms with fast 24-hour drying service. All Sani-Dri models carry Underwriter's Seal and full 2 year guarantee! Sold throughout the world.

WRITE FOR NEW COLOR BROCHURE



THE CHICAGO HARDWARE FOUNDRY CO.  
6217 Commonwealth Ave., North Chicago, Ill.

**SAVE THE WALL**

WITH **Rest-All**  
STRAIGHT CHAIRS



MODEL  
No. 500

New Rest-All Aluminum Straight Chairs are designed with Flared Rear Legs. This achievement stops Rest-All Chairs at the floor moulding, prevents chair backs from being moved against walls and marring them. Eliminates frequent repainting and replastering. Flared Legs is another reason why Rest-All Chairs are your best seating investment—in beauty, durability, economy, and comfort. Write for details.

**Ohio Chair**  
COMPANY INCORPORATED  
610 M. MICHIGAN RD. YOUNGSTOWN, OHIO

Export Department:  
25 Beaver St., New York 4, N. Y.

probability that the same blood test can be made to spot the early site of cancer too, since certain enzymes have been discovered in abnormally large quantities in the blood streams of cancer victims.

Harvard University's Dr. Felix Wroblewski and other eminent scientists theorize that when disease strikes the body, the affected organ—whether it's the stomach, the heart, or the liver—ejects a particular enzyme into the blood stream. Further study along this line could open up a whole new era for diagnostic medicine.

• Progress in understanding the relationship between human neurosis and artificially induced fear and anxiety in animals. Though reasonably clear in the case of traumatic (shock) neurosis, the parallel between man and animal has remained blurred in the study of psychoneurosis, in which the drive or impulse to action touches off the anxiety. Yet psychoneurosis is precisely the phase of human mental disorder that's in sorest need of basic research.

• A possible victory this year or next over schizophrenia. Hope was raised last year by discovery of a substance in the blood serum of schizophrenics that seems to produce characteristic schizophrenic symptoms when injected in normal persons. Isolation of this substance indicates that schizophrenia may be a medical disorder, subject to cure by medical means.



#### Real low cost material handling

Here a self-propelled Walkie-Worklifter is stacking pallets weighing 1000 to 1500 lbs. And working in a 5'-5" aisle, too narrow for large lift trucks. There are thirty-nine Walkie-Worklifter models priced from \$1250 to \$2500 complete with battery and charger. Lifting range up to 120". Ideal for light load elevators and floors. Write today for complete information.

Economy Engineering Company (Est. 1901),  
4537 West Lake Street, Chicago 24, Illinois.

+ INDUSTRY'S BIG PLUS +

- + Skilled Labor
- + Ideal Plant Sites
- + Modern Industrial Parks

R. I. Dev. Coun., R. M. 521, State House, Prov., R. I.

**RHODE ISLAND**  
INDUSTRY'S IDEAL STATE

## DO YOU HAVE

a specialized business service that will help the American Executive to do his job

- BETTER?
- EASIER?
- FASTER?
- MORE

**PROFITABLY?**

Then tell these executives about your services effectively and economically through the Special Services Section of "clues". Information without obligation by just dropping a line to

Classified Advertising Division

**BUSINESS WEEK**

P. O. Box 12 New York 36, N. Y.

## THE MARKETS

### Wall St. Talks . . .

... of fourth quarter dividend gains . . . long-term government bonds . . . most active stocks in 1956.

How dividend gains flattened out in the 1956 fourth quarter: According to Moody's Stock Survey, the percentage increase (1956 vs. 1955) in indicated dividend rates on its 125-industrials index was a mere 0.34%, compared with the 9.81% year-to-year gain racked up in October-December, 1955. For its 25-rails, the gain was only 2.7% against 10.82%. Moody's 24-electric utilities index, however, showed a rise of 2.1%, compared with 1.34% a year back.

Long-term government bonds ended 1956 at or near historic lows. The 3s, due 1983, for example, closed at around 96 1/4% of par, offering a 3.49% yield, compared with 2.95% at their 1955 close. The 3s, due 1995, closed at around 91, yielding 3.42% vs. 2.98%; and the Victory 2 1/2s closed at around 87 1/2, yielding 3.53% vs. 2.86%.

Symbolic of 1956's selective stock market: The Big Board's most active stock last year (trades of 7.4-million shares) was General Motors common, which ended up at \$44, 2.25 under its 1955 close. Second most traded (6.2-million shares) was U.S. Steel common; it closed at \$73.50, up \$15.50.

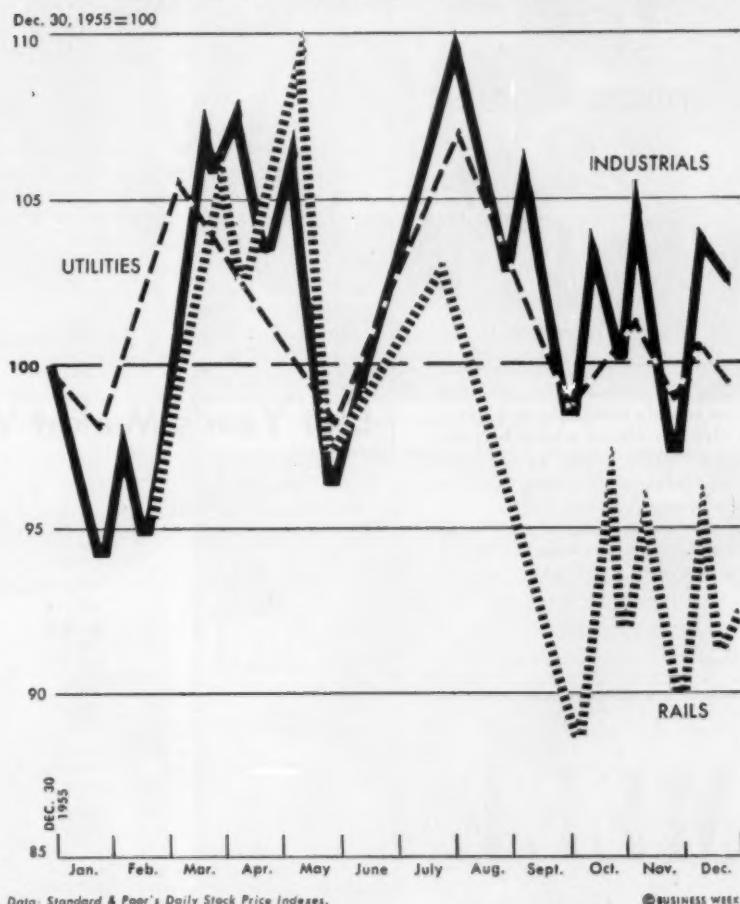
In the electric appliance manufacturing field, a lot of people must be wondering "who's next?" Streeters figure over 40 in that trade "retired" in 1956 because of keen competition induced by too much capacity.

Private financing activity last year, Investment Dealers' Digest estimates, about equaled that of 1955—some 900 deals involving sale of around \$4.3-billion of new securities.

The recent make-up of one prominent corporate pension fund, Inland Steel's fund had 47% of its \$42.5-million of resources invested in commons, 52% in bonds. Utility equities accounted for 7.7% of assets; oils, 6.9%; building supplies, 3.4%; steel 2.8%; machinery, 2.5%; food, 2.3%.

51 Big Board memberships changed hands last year at prices ranging from \$113,000 (on May 18), highest price recorded since early 1937, down to \$75,000 (on Nov. 30), lowest sales price registered since late 1954.

## Stocks in 1956: The Bull Market Slows Down



© BUSINESS WEEK

## '56 Barely Holds a Plus

Wall Street historians have written 1956 into the record books with puzzled frowns. Perhaps more than any other postwar year, last year showed few consistent patterns for stock prices. Selectivity, perhaps the most overworked word in the financial lingo, was the keynote for 1956 even more than in previous bull market years.

The averages, by and large, made dispirited showings. Standard & Poor's index of 50 industrials was up 3.4% for the year, but its index of 20 rail stocks was off 8.2% and the utility index stood just where it did a year earlier.

• **Late Spurt**—That 1956 could show a plus sign at all was no mean feat, for as late as the end of November, S&P's index was 11 points below the 1955 close. Prices rebounded early in December and spent the last days of the year around 3% to 3.4% higher than the close of the previous December.

This is not a particularly sparkling showing when you remember that the index rose 30% in 1955 and 49% in 1954. In terms of percentage gains, only in 1949 and 1953 did the index make a poorer bull market showing than it did last year. And the rail index had its poorest year since 1953, second worst since 1946.

• **Rallies**—In the course of 1956, the industrial index scored gains as high as 10% over the 1955 close, while never dipping more than 5% below the year-end. The year's first major rally came on the heels of the doctors' report saying Pres. Eisenhower was fit to run for a second term. Prices moved away from the lows of late January to a mid-March high of 520.5. The index nosedived in May to a scant 12 points above the January low—or nearly 20 points below the 1955 close.

The second major rally of the year

consider  
the PERSONNEL PLUS...

that  
GREATER MIAMI offers

Critical, hard-to-find employees...  
engineers...skilled technicians are  
more readily available to a plant in  
Greater Miami where healthy  
outdoor living combines with big  
city advantages. This means profit-  
able production.

Send on letterhead for Fact File—  
complete statistical area analysis.

**GREATER MIAMI  
INDUSTRIAL  
DIVISION**

Dade County Advertising Dept. 176  
141 N. E. 3rd Avenue • Miami, Florida

# MEET

the Canadians  
you need to know...

Ask Canada's First Bank to arrange  
your business introductions north  
of the border. With 675 branches  
coast-to-coast, this two-billion-  
dollar organization has nation-wide  
connections in every branch of  
Canadian industry. Address our  
nearest U.S. office or Head Office,  
Montreal.

**MY BANK**  
TO 2 MILLION CANADIANS

New York: 64 Wall St.  
San Francisco: 333 California St.  
Chicago: Special Representative's  
Office, 141 West Jackson Blvd.

**BANK OF  
MONTREAL**

*Canada's First Bank*

675 Branches Across Canada

RESOURCES EXCEED \$2,700,000,000



started from the end-of-May low and was progressing nicely until it was smacked in the midriff by Pres. Eisenhower's ileitis attack. After his successful surgery and reavowal of his intention to run again, the market moved upward in a strong summer rally.

• **Tight Money**—By midsummer, the issue of the President's health was being pushed out of Wall Streeters' minds by the problems of inflation and tightening money. The capital spending boom was proceeding at a record pace, and demand for business loans and long-term capital stayed high. The Federal Reserve raised the discount rate to 3% following a post-strike steel price increase and stock prices started a ragged retreat (chart).

In the latter half of the year, tight money had effects on the market, par-

ticularly as bond yields became more attractive in comparison with equities. The election was followed by a steep sell-off. The Suez invasion, Hungarian revolts, and resultant shifts in world power politics contributed to price weakness in the last quarter, and the usual tax-selling in December helped to put down any strong year-end rally.

Despite the selectivity that marked 1956 price action, capital goods shares generally were the big winners, while consumer goods shares suffered the most (table, below).

• **Looking Ahead**—As the new year starts on a sour note—stock prices took a beating in 1957's opening session—Wall Street seers are generally looking for a year of consolidation. They expect modest, if any, price rises for most issues.

## Last Year's Market Winners . . . and Losers

Stock Groups	1955 Close	1956 High	1956 Low	Maximum Gains	1956 Gains	Late-Dec.
Office, business equipment . . . . .	557.5	873.4	822.7	+56.7%	+47.6%	
Bituminous coal . . . . .	747.4	1125.3	1058.7	+50.6	+41.7	
Industrial machinery . . . . .	341.3	469.3	469.3	+37.5	+37.5	
Specialty machinery . . . . .	123.4	169.1	169.1	+37.0	+37.0	
Shipping . . . . .	775.1	1033.7	1023.8	+33.4	+32.1	
Construction machinery . . . . .	395.4	562.2	520.5	+42.2	+31.6	
Auto trucks . . . . .	229.8	315.3	292.0	+37.2	+27.1	
Shipbuilding . . . . .	483.8	654.5	614.1	+35.3	+27.0	
Aircraft manufacturing . . . . .	700.8	876.8	861.9	+25.1	+23.0	
Sugar . . . . .	129.7	158.5	156.2	+22.2	+20.4	
Mining, smelting . . . . .	229.6	293.6	274.0	+27.9	+19.3	
Printing, publishing . . . . .	188.2	243.8	221.9	+29.5	+17.9	
Steel . . . . .	517.9	609.5	609.5	+17.7	+17.7	
Oil-integrated companies . . . . .	536.2	667.3	629.5	+24.4	+17.4	
Aluminum . . . . .	1137.2	1734.8	1329.5	+52.6	+16.9	
Machine tools . . . . .	378.6	482.7	436.0	+27.5	+15.2	
Drugs . . . . .	165.9	198.5	189.4	+19.7	+14.2	
Oil—crude producers . . . . .	977.3	1184.1	1106.9	+21.2	+13.3	
Electrical equipment . . . . .	365.4	423.8	403.7	+16.0	+10.5	
Building materials . . . . .	346.6	426.3	375.1	+23.0	+8.2	
Copper . . . . .	286.3	351.7	305.8	+22.8	+6.8	
Tires, rubber goods . . . . .	1167.5	1273.9	1224.1	+9.1	+4.8	
Metal fabricating . . . . .	370.1	434.7	384.2	+17.5	+3.8	
Carpets, rugs . . . . .	131.0	144.2	134.5	+10.1	+2.7	
Auto parts, accessories . . . . .	272.8	291.1	279.8	+6.7	+2.6	
Air transport . . . . .	556.0	599.5	556.2	+7.8	-0	
Agricultural machinery . . . . .	179.5	181.7	176.1	+1.2	-1.9	
Paper . . . . .	1530.7	1890.3	1486.6	+23.5	-2.9	
Distillers . . . . .	474.0	490.5	455.6	+3.5	-3.9	
Railroad equipment . . . . .	158.2	163.1	152.1	+3.1	-3.9	
Automobiles . . . . .	475.6	496.7	452.7	+4.4	-4.8	
Confectionery . . . . .	159.0	165.9	151.0	+4.3	-5.0	
Cigarettes . . . . .	95.5	99.9	90.5	+4.6	-5.2	
Food chains . . . . .	371.2	368.6	351.9	-0.7	-5.2	
Containers—metal . . . . .	158.3	171.1	149.5	+8.1	-5.6	
Finance companies . . . . .	261.1	273.5	243.1	+4.7	-6.9	
Lead, zinc . . . . .	117.9	131.2	109.2	+11.3	-7.4	
Food companies . . . . .	211.1	212.7	193.6	+0.8	-8.3	
Containers—glass . . . . .	205.3	239.1	187.7	+16.5	-8.6	
Chemicals . . . . .	477.2	515.0	434.6	+7.9	-8.9	
Motion pictures . . . . .	241.0	252.4	215.3	+4.7	-10.7	
Shoes . . . . .	156.9	158.2	136.2	+0.8	-13.2	
\$1, 10¢ and \$1 chains . . . . .	123.0	126.5	106.1	+2.8	-13.7	
Sulphur . . . . .	445.2	459.6	379.3	+3.2	-14.8	
Department stores . . . . .	380.3	383.3	323.4	+0.8	-15.0	
Textile weavers . . . . .	279.7	275.7	230.4	-1.4	-17.6	
Mail order, general chains . . . . .	447.9	456.1	366.8	+1.8	-18.1	
Soft drinks . . . . .	131.4	134.3	107.5	+2.2	-18.2	
Fertilizers . . . . .	496.1	509.6	390.3	+2.7	-21.3	
Rayon acetate yarn . . . . .	385.3	391.5	290.6	+1.6	-24.6	
Radio, TV, electronics . . . . .	456.1	477.3	342.8	+4.6	-24.8	

Data: Standard & Poor's Corp. Weekly Stock Price Indexes (1935-39=100)



Corrugated boxes fold flat—easy to store



No risk from nails or splinters



Fast closing—protected from dirt



Into the vacuum cylinder—out in 15 min.

## Vacuum chilling lettuce in CORRUGATED boxes saves 1500 lb. of ice per load—stretches shelf life 500%

Many a head of lettuce bringing a good price on the market today would have rotted in the field if it weren't for vacuum chilling and corrugated boxes.

Heretofore, lettuce was loaded into a truck trailer in wooden crates and covered with ice. As the ice melted, the load was slowly cooled. Unless rushed to market, sometimes lettuce wilted before it got there.

The new way is to pack it in corrugated boxes and vacuum chill it to 35° in about 15 minutes. Then it's loaded into the trailer already cool. The saving in ice is 1500 lb. per trailer—\$20 in cost and enough space for another 75 to 100 boxes.

Experience shows lettuce keeps its

freshness five times as long this way. Hence it generally brings a higher price. In many cases, crops too late for harvest by old methods are saved from the plow.

Light but strong, and low in cost, corrugated boxes keep out heat and dirt, reduce shipping weight, store flat, and eliminate the hazards of nails and splinters. And low-cost printing on the sides permits easy brand-identification.

This is just one more way that corrugated boxes are saving money and improving packaging for American business. Can you use corrugated? Have a talk with your nearby boxmaker. He's listed in your classified telephone directory under "Boxes—Corrugated."

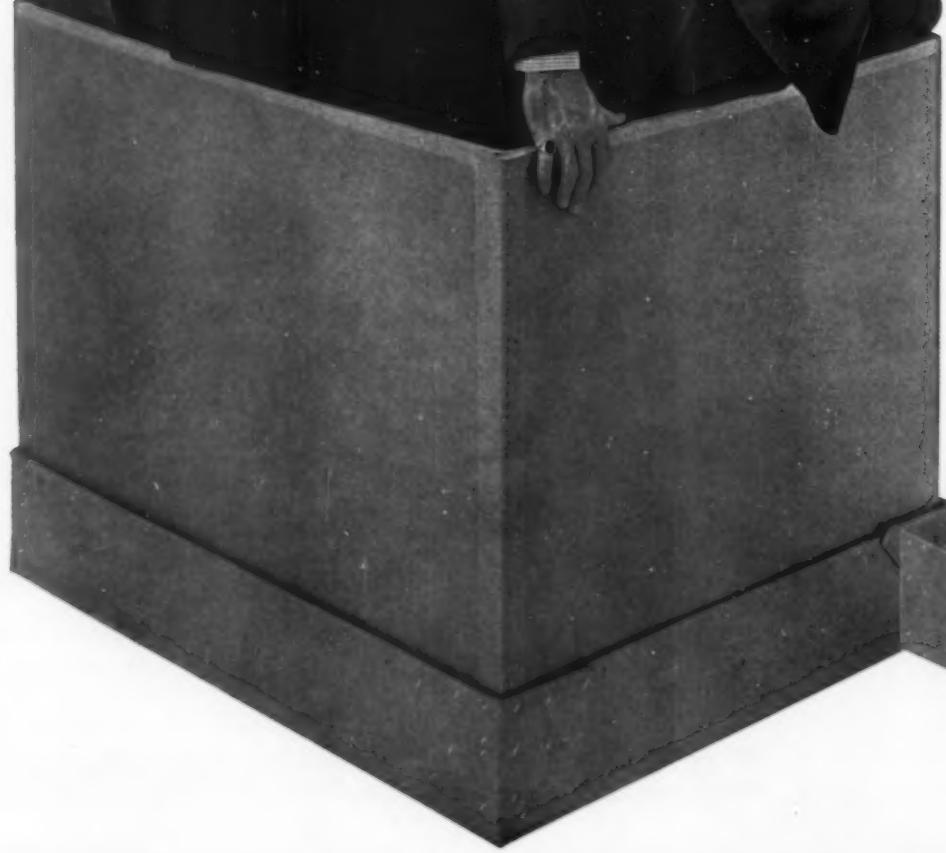
Langston doesn't sell corrugated, only the machines that make it. Since 1902, these machines have led the field in efficiency and dependability. *Samuel M. Langston Co., Camden 4, N.J.*



THINK FIRST OF CORRUGATED

**LANGSTON**

Corrugated Container Machinery



# Big Boy...the St. Regis container that can carry 1000 pounds...

It's a corrugated board container  
... some people might call it a "carton."

But it's a big one and a strong one, a real giant, able to carry 1000 pounds.

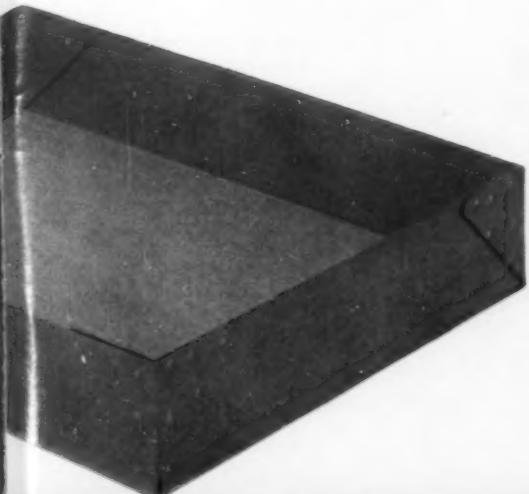
It was perfected for industry, to ship materials in bulk—safely and economically without contamination. So far, it is the Big Boy of the St. Regis line.

You'll hear of more and more unusual containers coming from St. Regis...  
bags with the strength of boxes and boxes that load like bags... and  
many other new developments.

For St. Regis is rapidly establishing itself as the pioneer of new uses in  
the world of paper and paperboard, of film and plastic. Masters of the  
art of packaging, we're constantly putting new ideas to work—to help  
Industry move its goods to market in better condition and at lower cost.

If you have a problem that bothers you—in packaging, shipping,  
storing, wrapping—let us know about it. You may be surprised  
how much we can help you. St. Regis Paper Company,  
Dept. B-1, 150 East 42nd St., New York 17, N. Y.

**St. Regis**  
PAPER COMPANY  
150 EAST 42ND STREET, NEW YORK 17, N. Y.



"I made it!" "I sold it!" "I bought it!"



#### "I'M A MANUFACTURER

I make a product that has made a name for itself—and I'm proud of it. What's more, I'm always working to make it better. That's my responsibility *and* my satisfaction—to manufacture *quality* that will always satisfy those who buy my goods."

#### "I'M A DEALER

The best way I know to make my customers my *friends* is to sell brands that have made a name for themselves. A shopper just naturally feels more comfortable buying a brand that has known quality, proved value. And I feel more comfortable letting her walk out with it. I know she'll be satisfied—and be back again."

#### "I'M A CUSTOMER

Every woman wants to feel she's spending her dollars for the right things. This is only good sense and good home management. So I pick brands I feel confident about. A product that's good enough to have made a name for itself is exactly the quality for me. That's what satisfies me most."



"I'm always satisfied most with a Brand that's made a Name for itself!"

BRAND NAMES FOUNDATION, INC. • 437 Fifth Avenue • New York 16, N. Y.

# PERSONAL BUSINESS

BUSINESS WEEK

JAN. 5, 1957



With little left of Christmas but the January bills, it's a good time to look to the rights of the consumer who got stuck with damaged, defective, dangerous—or just unwanted—merchandise. The stores are full of people trying to exchange Yuletide presents—for cash, merchandise orders, or a different size. And there are others, less fortunate, who have a great deal more to complain about—they were made ill or were injured as the result of something bought in a store and used innocently.

First, a word about exchanging Christmas gifts. Perhaps the only hard-and-fast rule is to supply the store with proof that the item was actually purchased there. A sales slip, label, special return slip, or even a box will probably do. Without a sales slip, you'll most likely get not cash but credit at the current selling price (which may be less because of post-Christmas markdowns)—unless you can muster other evidence of cost. Usually, there's no rigid deadline on exchanges; some stores say Jan. 10 or 12.

**Gift certificates**—most of them without a time limit—can be converted to cash in some stores. In others, they're good only for credit. But you can always apply them to your charge account.

If goods are damaged or defective, you enjoy some legal rights whether or not you suffer harm or injury. You (or the person who made the purchase) can return the merchandise—whether a box of tree lights or an expensive wrist watch—for a refund or perhaps a replacement. Most stores are very reasonable about this practice, based on the theory of "implied warranty," which says that the goods offered for sale are of "average merchantable quality." If the retailer isn't amenable, it's a question of going to court—or maybe simply seeing your lawyer.

If you want a refund (or money damages) on the ground that the goods were supposed to possess some unique or special quality and didn't, you must show an "express warranty." This is something in writing, or something you can prove the retailer said by way of guarantee—such as the salesman who specifically promises the TV set will be absolutely free of flicker if his company's service department installs it.

Note: The retailer has a right to "puff" his goods—to play them up to make a sale. If you go to court, it's up to the jury to draw the line between puffing and misrepresentation. Moral: Get a written statement if it's an expensive purchase with unique features.

The real trouble comes with illness or injury resulting from the use of a product. Say your wife ordered Christmas candy from a local store, and you all get sick from eating it. The upshot is a ruined holiday, several home calls by the doctor, and a week's hospitalization for your child. Tests show the candy was contaminated. What can you do?

- Your wife, as buyer, could sue and probably recover damages from the store to cover her own injury—on the basis of the merchant's implied warranty that the candy was free of harmful defect.

- If you and your child sued the store, however, damages would usually be denied—because of the lack of a contractual, buyer-seller relationship (your wife bought the candy). Implied warranty would not apply.

- You could sue the candy manufacturer and collect for all injuries suffered by you and the family—provided you could prove negligence in preparing the candy and that it had been purchased in its original, sealed package. (Basis of suit: negligence.)

# PERSONAL BUSINESS (Continued)

BUSINESS WEEK  
JAN. 5, 1957

In such a case, you can get money damages from a manufacturer no matter what the product—foods, appliances, vehicles, housewares, softgoods. Obviously, the manufacturer and not the retailer—at least, in many cases—would be your best bet for financial recovery (in terms of ability to pay damages). Besides, the manufacturer would be more apt to make a reasonable settlement (out of court) to protect his product goodwill.

Sometimes, you can recover from a negligent manufacturer for personal injuries even though you're neither the buyer nor user of the defective product. For instance, a pedestrian who was injured by a new car that had been sold with defective brakes might be able to collect from the auto maker.

**Biggest stumbling block in all these cases: lack of proof.**

—•—

If yearend business and social activities left you at low ebb, you may be mulling over some New Year's resolutions. **Fatigue is hard to ward off at any time, but it's worth the effort to try—particularly at this time of the year.** Being overtired opens the door to a host of winter ailments.

The best remedy is enough of the right kind of food and plenty of sleep. But a good preventive medicine is a check of everyday conditions. Here are some things—other than hard work—that can cause fatigue.

- **Crowded working conditions.** Lack of elbow room is frustrating, and can wear you out even more than the pressure of overwork.
- **Misuse of color.** Studies reveal that white is especially tiring; so are purple, brown, orange, and certain shades of blue. Most soothing colors: medium shades of green and yellow.
- **Glare.** Major sources usually are corrected; but more subtle origins—metal surfaces or glass desk tops, for example—are often overlooked.
- **Uncomfortable furniture.** Your chair, desk, or table can tire you out, too. Most people use chairs that are too high for them. A good working chair should have an adjustable backrest.
- **Lack of exercise and relaxation.** Research shows that a man who exercises regularly—and moderately—requires less oxygen to do the same amount of work than one who doesn't exercise at all. And you'll find that if you take a 10-min. break morning and afternoon to rest your feet on the desk, you'll be less weary at the end of the day.

**Be especially careful of getting overtired after age 40.** Energy reserves are smaller then, at a time you're likely to be most active in business.

—•—

**A new insurance policy for telephone-answering services** protects them against negligence, errors, or omissions in delivering messages to clients. If you subscribe to a service carrying this insurance, you'll be able to collect for any losses you may suffer due to such errors. Policy limits: \$25,000 minimum; \$100,000 maximum.

—•—

**Manners and modes:** If you're married, you have a greater life expectancy than if single, widowed, or divorced, according to medical statistics. . . . Model railroad fans spend \$15-million yearly and 6.8 hours weekly on train assemblies. . . . Snow tires make winter driving easier in loose snow and slush. But for deep or hard snow and ice, reinforced tire chains are best, according to National Safety Council tests.



AMAZON OIL TRANSPORT HOSE



## TANKER BREAKS LOOSE... "U. S." Hose holds on

Helplessly, the big tanker drifted away from the pier. She had slipped her moorings. Her sole connections with the shore were two lines of U. S. Amazon® Oil Transport Hose, one forward, one aft.

As the heavy, sluggish tanker edged further out, tremendous strain began to build up on the two hose, each consisting of two 25-foot lengths. *But U. S. Amazon Hose held.*

Soon each 50-foot line of hose was, as the picture above indicates, stretched like a rubber band—in fact, stretched out to 114 feet, over twice its normal length.

*But U. S. Amazon Hose held—*

When the tanker was brought back to the pier, astounded engineers removed the hose and tested it to 200 lbs. pressure.

No leakage or other damage was found. Most amazing of all, each of these stretched and strained lengths recovered all but one foot of its original length.

This totally unexpected use of U. S. Amazon Hose as a hawser is a dramatic example of the value of "U. S." wire cord construction—which can take more longitudinal abuse or other deformations than conventional woven duck hose.

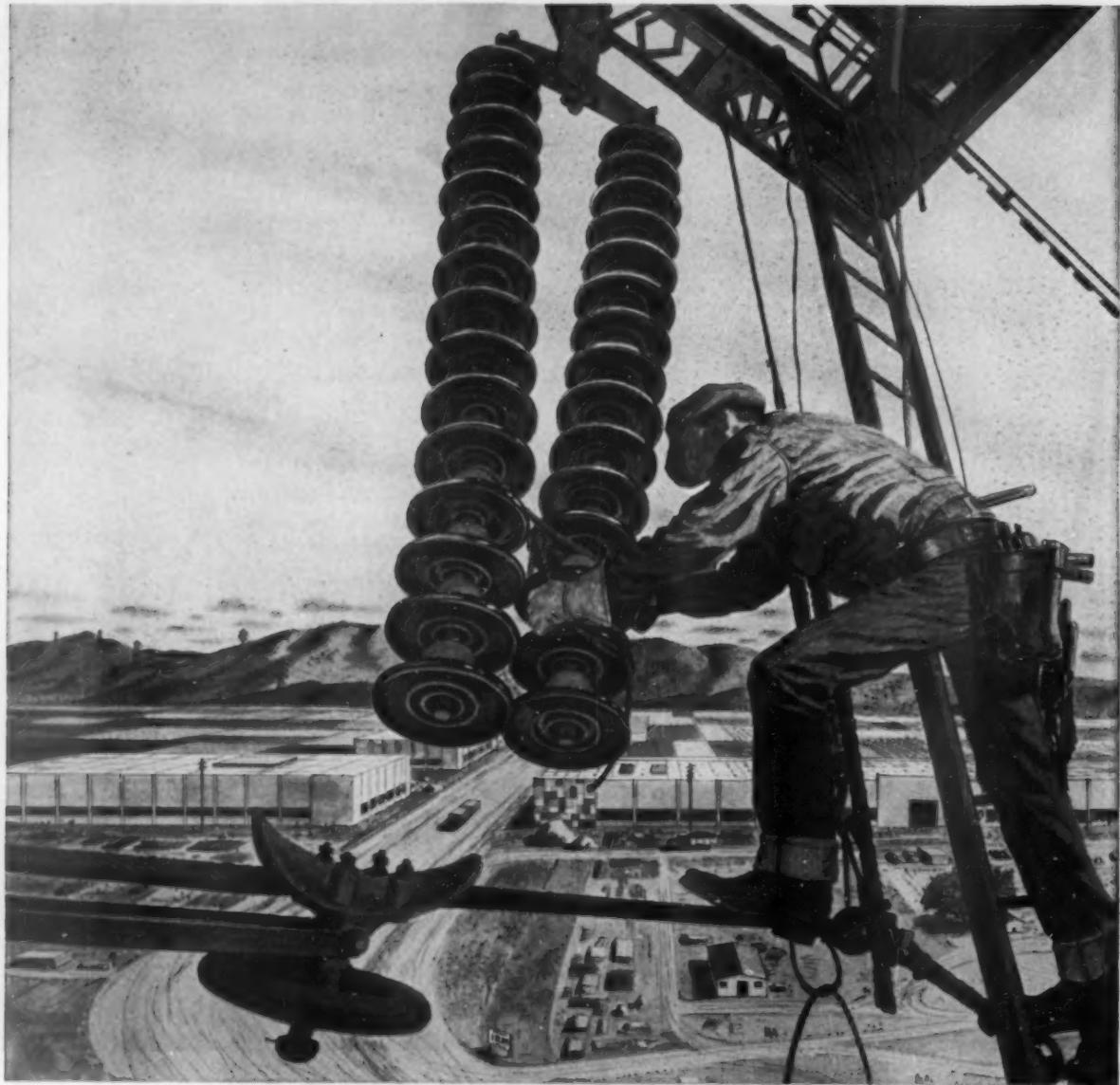
U. S. Amazon H-1515 is recommended for discharge—H-1818 for both suction and discharge service.

A complete selection of dock hose is available at any of the 28 "U. S." District Sales Offices, or write us at Rockefeller Center, New York 20, N. Y. In Canada, Dominion Rubber Co., Ltd.

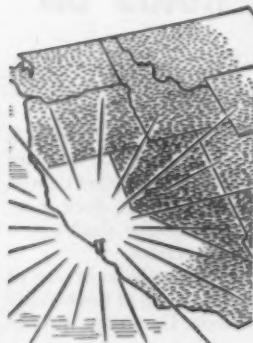


Mechanical Goods Division

**United States Rubber**



*International Business Machines' new manufacturing plant at San Jose, California.*



**Northern and Central California—marketing center of the Golden West.**

## **IBM: One of PG&E's 128,000 new customers last year**

*Actually, IBM is one of more than a million new customers in the last ten years. That's the astounding growth of Pacific Gas and Electric Company (and Northern California).*

To serve these new customers, P. G. and E. has *tripled* its capacity, investing \$1 1/2 billion in the greatest expansion in the history of the industry. There's plenty of low-cost gas and electricity here for everyone.

Sooner or later you, too, will move to Northern California . . . to serve the great, growing western market from your own western plant. P. G. and E. will gladly furnish plant site information tailored to your needs. A full-color movie, "Golden Horizons," is also available covering Northern California's industrial opportunities, superb climate and living conditions. Write: Industrial Development Department, 245 Market Street, San Francisco, California.

Some of the famous firms investing nearly \$2 billion in Northern California plants since 1945

- Dupont
- Goodyear
- General Electric
- Westinghouse
- Ford
- U. S. Steel
- Johns-Manville
- Monsanto Chemical
- Owens-Illinois Glass
- Sylvania

**PGE**

*Pacific Gas and Electric Company*

# In Business, Everyone's Looking Ahead

● More than ever before, it's the vogue for companies to gaze far into the future in laying plans.

● In one survey, more than two-thirds of the businesses said they plan three to five years ahead.

● Sometimes the payoff is bounteous, when you catch an upward trend sighted by the planners.

When the latest McGraw-Hill surveys assessed 1957 capital expansion by U.S. business at \$40.2-billion (BW-Dec.15 '56,p31), wide grins of optimism resulted. But as significant to the economy may be another fact showing up in surveys—the new prevalence of long-range planning by U.S. companies.

Here's some sample proof that business is now staring into a future far beyond the next profit-and-loss statement:

- The number of large companies laying plans three to five years ahead has more than doubled, according to the McGraw-Hill survey, now in its ninth year. A few years ago, fewer than one-third of the concerns surveyed bothered about planning that far in advance. Now, more than two-thirds do.

- Even medium and small companies are catching the fever for forward planning, previously confined to big businesses.

- In a recent survey of 189 manufacturing companies, the National Industrial Conference Board found that at least half of them plan five or more years into the future.

- In a roundup of its own, BUSINESS WEEK turned up another interesting statistic—as many as one-third of the companies interviewed had established their formal long-range planning programs only within the past two or three years. And many of those still without such plans were about to climb aboard the bandwagon.

- **How So?**—There are a number of reasons for this popularity of the long-range crystal ball. For one thing, it's becoming harder and harder for individual companies to stay alive without recourse to such techniques as long-range planning. It has been estimated that at least 800 mining and manufacturing companies, with assets ranging from below \$1-million to more than \$100-million, will be merged with or acquired by other corporations this year. About 40 times this number of businesses—mostly small—will fold.

This doesn't mean all small companies are necessarily predestined for the wall. Some are doing very well—and

will continue to do so. And the rate of formation of new companies to replace the failures is still high. But, at the same time, the rate of attrition is increasing—and if the fittest are to survive, they must often change their ways.

What's more, American business is more than ever characterized by constant growth, change, and complexity. And in the next quarter century, change will be even more pronounced.

Other reasons for this hard thinking about the future:

- Competition is tightening.
- It takes more and more time and investment to turn out new products or improve old ones.
- There's less and less time available to secure a foothold in many markets.
- **Reappraisals**—This all adds up, for many companies, to a shift in their operations. Says one Northeastern capital goods producer: "We used to watch a competitor's success, or lack of it, in setting up a new product before taking the plunge. But now we have to plan for products three to five years away or get left behind by the parade."

The remark is typical of companies newly sensitive to pressures from time and competition. It helps to explain why long-range planning will be a favorite topic at management conferences and seminars this year. And why more and more companies are establishing special committees or even directors of planning, complete with staff. Bright young men, eager to nudge nearer to top management, are flocking to these planning cadres.

- **Through the Years**—Of course, planning is nothing new to business. Every decision by a policy maker is based on some forecast. But a generation ago, he could plan almost intuitively, from his knowledge of the industry and "feel" for events. No longer is this so easy. The planner today leans on economic forecasts, market studies, and detailed projections of company operations.

He has plenty of company, too. As more companies go in for the new planning, the pressure increases on

laggards to follow suit. As more concerns plan firmly for the future, their customers and suppliers find it possible to do the same.

- **Theory . . .**—Each company's personality has a lot to do with the sort of long-range planning it adopts. The result can vary widely. One thing that long-range planning is not, however, is the preparation that normally goes into a new product or plant—such as the seven years an aircraft maker may spend to design and build a new plane, or the 10 years it may take a utility to put up a hydroelectric project. Neither is it mere forecasting of market trends.

What is it then? The answer, roughly, is that long-range planning is a process—in which management tries to decide what the world will be like 10 or even 20 years ahead. Next it looks at itself to analyze how it can best adapt to trends it sees abroad. Then, it sets long-term goals for itself accordingly (sometimes even to a switch from its present line of business).

With economic forecasts and market surveys as a basis, the company can then plot sales objectives and all the details needed to attain them. The farther into the future the planning goes, however, the more flexible it becomes, with ample alternatives—on the order of the war plans section of the Pentagon, which blueprints a course of action for just about any contingency imaginable.

Even when a plan is for only a year ahead—and actually amounts to a budget—it's kept flexible on a quarterly or six-month footing.

- . . . and Practice—Often, companies turn to outside consultants for help in establishing a planning program, or to check their own conclusions and methods. Many also retain independent economists to make forecasts.

The variations though are infinite. For example, under Sewell Avery, Montgomery Ward & Co. had a long-term plan based on a depression.

A machine tool producer says: "You really don't know what's going to happen in this business." And so, with a two-year backlog of orders, he thinks it's foolish to plan much farther ahead.

Others, such as General Electric, have teams of planners plotting 10 years away. GE trains its second-level managers to get ready for markets and products 15 years in the offing. American Tel & Tel, another long-range planner, has engineers toying with television phones, while researchers estimate their costs and market potentials.

But, on the other hand, a fashion goods producer can't prudently look

For what it's worth...

# What are the facts behind the merger?

from the CLIENT'S SERVICE BULLETIN  
of the AMERICAN APPRAISAL Company

THE PURPOSE behind most mergers is not merely to make big ones out of little ones. Although increase in financial strength may be a consideration, the purpose often is to broaden product lines, assure an adequate supply of materials, reach wider markets, or there may be other equally sound economic reasons, rather than stifling competition.

While many acquisitions are consummated by a purchase of assets either for cash or stock, the greater number is based on an exchange of capital stocks. When the stocks of both companies are actively traded, the problem of exchange ratio may be simple, although often there are adjustments for various economic factors.

But when there is little or no public market for the stock equities, the determination of the fair market value becomes of prime importance. There is no reliable rule-of-thumb formula for establishing the value of equities in such situations. Earnings, dividends and current position are important, as are past trends, as a guide to future prospects. However, it is also important to compare accounting policies in handling capital, expense, and depreciation or amortization and their effect on both past and future income.

Although earnings are an important factor, the value of assets, tangible and intangible, may have an important bearing on the value of the equities. Have the existence and value of these assets been verified? Are they overvalued or undervalued on the balance sheet?

Of two companies involved in a proposed merger, one may have modern productive capacity, also development and advertising expenditures which have not yet been fully reflected in past earnings. The other may have valuable patent rights, franchises, licenses and a national distribution organization but inadequate production facilities. The two might well form an ideal combination with increased benefits to the stockholders of both companies. The matching of the values of these two enter-

prises requires a careful analysis before a basis for exchange of equities can be reached. The values of the assets of each company, both tangible and intangible, should be considered. Rarely will past earnings supply all the essential facts.

Because the merger will be reviewed by governmental agencies, the facts behind it should be carefully documented. These steps are also necessary to forestall litigation by minority stockholders. An inspection, record and valuation of properties are also important, for accounting, insurance, budgeting replacement needs and other purposes.

★ ★ ★

Whatever the appraisal need—whether for purposes of business sale or purchase, property control, corporate financing, taxes, accounting or insurance—an American Appraisal provides authoritative information...supported by detailed factual data...interpreted in accordance with valuation principles tested by more than half a century of experience. That is why thousands of firms, large and small, depend on The American Appraisal Company for appraisals that command acceptance and respect.

## The AMERICAN APPRAISAL

Company

SINCE 1896...LARGEST...MOST WIDELY USED  
Home Office: Milwaukee, Wisconsin

Atlanta	Cleveland	New York
Baltimore	Dallas	Philadelphia
Boston	Detroit	Pittsburgh
Buffalo	Kansas City	St. Louis
Chicago	Los Angeles	San Francisco
Cincinnati	New Orleans	Washington

Affiliated: Canadian Appraisal Company, Ltd.  
Montreal and Toronto

The American Appraisal Company  
525 E. Michigan Street  
Milwaukee 1, Wis., Dept. BW

Without obligating me, put my name on the list to receive your Client's Service Bulletin which discuss valuation problems.

Name.....

Firm.....

Position or Title.....

Address.....

City..... State.....

much more than six months into the future. As a result, he sticks to a general analysis of his company, the industry, and possible trends.

In some cases, planning has become so elaborate that companies are even dallying with the idea of using operations research studies (mathematical analysis) and computers to help evaluate alternate future courses.

• **Modus Operandi**—The responsibility for planning seldom lies on the same shoulders in any two companies. In many—such as Harris-Seybold Co., the Cleveland producer of printing equipment—the job goes to the president.

Other companies have instituted special policy committees for the long-range planning chores. Lockheed Aircraft Corp., which made its debut into planning of this type three years ago, recently established a corporate policy committee, composed of the company chairman, president, and three senior vice-presidents in finance, administration, and engineering. Wrested itself away from day-to-day worries, this group concentrates on policy matters, with a 15-man development planning unit to project the company's future in coordination with various departments.

Lockheed says this setup has forced it to think 15 and 20 years ahead. It helps management to reach current decisions in the light of long-range interests. It illuminates more clearly many companywide problems. And an extra dividend has been its catalytic action in bringing awareness of company policy and objectives to different offices and divisions.

• **One-Man Jobs**—Some companies assign planning to one man, usually the controller but more and more frequently these days an officer with the title of director of planning. With a small staff of market researchers, economists, and general handymen, he works out alternative future courses conjunctively with department and division staff specialists. Through him, over-all plans go to the president and top brass.

A fairly typical example is Texas Instruments, Inc., whose long-range planning is coordinated by a few staffers under Carl J. Thomsen, vice-president of control and finance. Each of TI's six product and service divisions prepares plans both on a long-term (five years ahead) and short-term (by months and quarters) basis. Plans for new product lines come from the central management group, which also helps coordinate all the other schemes for presentation to a planning review team, consisting of TI's four-man executive committee and the vice-president for marketing.

Every division chief submits his own share of the plans to the review team, whose province it then is to decide what will be recommended to the board (if the staff's work has been up to snuff,

**Project: Growth**

INTRODUCING ONE OF THE

# USI BILLION DOLLAR BOARD

**JAMES BRUCE** — Director, American Airlines, Commercial Credit, Republic Steel, National Dairy Products; U. S. Ambassador to Argentina (1947-49); Director, Mutual Defense Assistance Program (1949-50).

James Bruce is one of the members of the Board of U. S. Industries, Inc. . . . a board that is largely responsible for what amounts to an industrial miracle. Just consider: Back in 1948 the company, then known as Pressed Steel Car, was completely dependent on the frantic ups and downs of the freight car market. Today it has a new name . . . 12 booming divisions turning out products for every basic industry . . . and sales double the best of the old days. And USI doesn't make a single freight car!

Some transformation! But perhaps not so surprising when you realize that the directors have management backgrounds in chemicals, transportation, finance, precision tool manufacturing, research and government planning. So far, their wide experience has steered USI into producing aircraft landing gears, engine lathes, petroleum pumping equipment, giant metal forming presses, welded steel pipe for water, gas and oil transmission, dairy equipment, cookware, electrical fittings, steel tanks, and components and systems for jet aircraft and guided missiles. And USI is just getting started!

KEEP YOUR EYE ON USI

**U.S. Industries, Inc.**



250 PARK AVENUE, NEW YORK 17, N. Y.



## DIVISIONS OF U. S. INDUSTRIES, INC.

**Axelson Manufacturing Company:**  
Oil Field Equipment, Aircraft Components, Metal Fabricating Equipment

**Chicago Steel Tank Company:**  
Tanks, Process Equipment, and other Engineered Products

**Clearing Machine Corporation:**  
Metal Forming Presses

**Conduit Fittings Corporation:**  
Electrical Conduit Fittings

**Garrett Oil Tools, Inc.:** Oil Field and Permanent Completion Equipment and Services

**General Equipment Corp.:**  
Distributors of Industrial and Agricultural Equipment in Puerto Rico

**Koppel (Philippines), Inc.:**  
Distributors of Industrial and Agricultural Equipment in the Philippine Islands

**Ordnance Division:** Operates and manages Rockford, Illinois, Ordnance Plant

**Solar Permanent Company:**  
Stainless Steel Cookware, Refrigerated Bulk Milk Tanks and Containers

**Southern Pipe & Casing Company:**  
Water, Gas and Oil Transmission Pipe and Fittings

**USI International:** Exporters and Merchandisers of Industrial and Railway Equipment

**Western Design & Manufacturing Corp.:** Engineering and Manufacturing Aircraft and Missile Components and Systems



## The Finest Office Supplies Come in Lithographed Metal Containers ... Styled by J. L. Clark, of Course!

Trust the modern secretary's perception; she knows that sleek, colorfully-styled containers *do more* than reflect the quality of the products they convey. From keeping her typewriter ribbons fresh and ready for use (then working overtime to hold clips, hairpins and such) to dispensing her Scotch brand cellophane Tape with the greatest of ease, Clark lithographed metal containers perform many office jobs all over the world. Design-wise, they attract sales on sight. In safety features, they can't be beat.

If you have a packaging problem, let us talk to you about Clark lithographed metal containers: a full range of structures . . . complete creative facilities . . . and 51 years of experience . . . yours for the asking! **J. L. Clark Manufacturing Co., Home Office and Plant, Rockford, Illinois; Liberty Division Plant and Sales, Lancaster, Pennsylvania; New York Sales Office, Chrysler Building, New York 17, New York.**



all the recommendations get O.K.s). Every quarter, there's a review and adjustment of short-term plans; at the year's end, additions and necessary alterations find a place in the next long-range projection.

Use of a special staff for formal long-range planning may be something new, but in plenty of companies it is a key job that may become even more so.

Since a long-range planning group conducts market studies, gets into future financial plans, has a strong voice in company diversification or acquisition moves, coordinates activities between divisions—and is close to the president—it becomes a major nerve center and point of power.

Besides spreading throughout industry, planning staffs will grow in function and size till they become the central control point for large diverse companies of the future, say enthusiasts.

Be that as it may, planning ahead is getting new attention and often this concentration on the future brings a real change to the company.

**National Distillers Products Corp.** is a leading whisky maker that's now making a big dent in the chemical industry (BW-Dec. 1 '56, p107). Shortly after 1946, when profits hit a peak of \$40-million on sales of \$229-million, it became obvious that the company's growth and profits would diminish if it banked only on whisky.

So it stepped into the growth field of chemicals and chemical research, which by the end of 1957 is expected to contribute 40% of the company's profits—and go on from there.

**Union Carbide & Carbon Corp.**, an extremely successful and diversified chemical giant, with 1955 sales of \$1.2-billion, has created a special subsidiary to gaze into the future for its parent. UC&C regards anything less than a 10-year look ahead as only medium-range planning. Recently, it announced plans to build an atomic reactor and delve into an entirely new brand of chemistry, involving the atom (BW-Aug. 4 '56, p94). The payoff may be a long time coming. But Union Carbide expects it to be rich.

**American Machine & Foundry**—another company with long-range ideas—back in 1946 took a gander at the future, guessed right and prospered. At that time, most concerns were shunning war work and rushing to fill civilian markets. So AM&F concluded that the state of international affairs would force the U.S. to maintain a strong defense posture. It moved into civilian lines, to be sure, but energetically sought defense contracts as well.

**North American Aviation, Inc.**, also indulged in some sober introspection 10 years ago. Once just an airframe maker, it decided to diversify into related lines and atomics. Now, it's a

## Royal Precision LGP-30 Electronic Computer

**COMPACT...  
MOBILE...  
LOW IN COST...**



### helps increase productivity of valuable engineers

**Time-Saving.** The LGP-30, a stored program computer, eliminates much detailed calculation and makes more time available for creative engineering.

**Personalized.** The LGP-30 brings high-speed electronic computation directly to the desk of the individual engineer. Most problems can be programmed completely right in his own office and followed through to the end — with modifications made from intermediate results as required.

**Complements central computing installation.** The LGP-30 can serve as a "satellite" to a central computing installation for those problems which are performed more effectively on a decentralized basis. New programming techniques permit the use of one code for both machines. Thus, programs may be prepared in the central computing facility directly from engineers' equations, and the computations done on the LGP-30.

#### Outstanding features of LGP-30

- Operates from regular wall outlet (110 volts AC).
- Requires no expensive installation . . . no external air-conditioning.
- Stored program computer.
- Unusually large "memory"—4096 words.
- Enters and reports numerical or alphabetical information by punched paper tape or keyboard.
- High-speed operation . . . finger-tip control.
- Lowest cost ever for a "complete" computer.
- Excellent service facilities available.
- Now being delivered.

For further information, write Royal McBee Corporation, Data Processing Equipment Division, Port Chester, N. Y.

**ROYAL MCBEE**  
CORPORATION  
GENERAL OFFICES: PORT CHESTER, N. Y.

## LOOK FOR RIVETS WITH A COMPASS



*Draw a 300-mile circle around your plant —*

**You're almost certain to circle one of  
Milford's five manufacturing plants!**

There's hardly a metalworking plant in the country that isn't within overnight trucking distance of one of Milford's five manufacturing plants. And 20 sales offices add to the convenience of ordering and getting rivets when you need them NOW!

To improve product appearance and strength  
... to take full advantage of automatic assembly  
... to cut delivery time and production costs  
—get in touch with Milford first!



**MILFORD RIVET  
& MACHINE CO.**

MILFORD, CONNECTICUT • HATBORO, PENNSYLVANIA  
ELYRIA, OHIO • AURORA, ILLINOIS • NORWALK, CALIF.

producer of high-speed planes and missiles—and, besides, an electronics company supplying its own components, and an important factor in atomic reactor design and construction.

Radio Corp. of America is displaying equal faith in long-range prospects. Because of a conviction that color television is the coming boom, RCA has been sinking millions into it, so far with no return, just to make sure it will be top dog in the eventual market.

• **Pro and Con**—At best, planning is no better than a company's ability to foresee what's ahead—and then act, which is up to management. There are two problems most frequently mentioned:

- Statistics so detailed that they lose meaning.
- The temptation to interpret data to fit preconceptions.

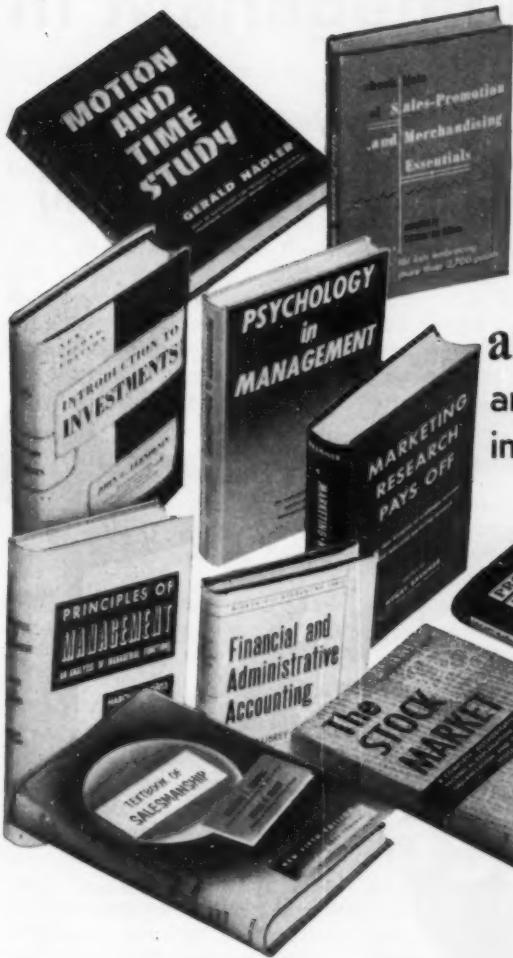
And there's another rub. One top consultant says the average company president is a prisoner of his quarter to quarter and yearly profit statements. He just can't help hovering over current operations, to the exclusion of long-range thinking. The reason: Immediate profits are how he is judged by his directors, his fellows, and himself.

"In long-range planning or company analysis, call it what you will," the consultant says, "the problem is getting top management to really spend some time on it."



### Promotion at Porter

T. M. Evans, 46-year-old president of the multi-faceted H. K. Porter Co., Inc., is taking over as board chairman—the first time such a post has existed since the reorganized company's incorporation in 1939. Charles L. Holbert, 42, executive vice-president, steps up into the presidency. Idea is to spread duties, a move necessitated by the company's beanstalk-like growth by acquisition (BW—Nov. 26 '55, p118). Porter's 1954 sales were \$68-million, hit an estimated \$150-million-plus last year.



# Take any two OF THESE OUTSTANDING BOOKS Take one *Free!*

and one as your 1<sup>st</sup> selection  
and enjoy the benefits of membership  
in the McGraw-Hill Business Book Club

Choose from **The Stock Market, Profit Management and Control, Textbook of Salesmanship, and nine other valuable books** as your introduction to membership in the Business Book Club.

To demonstrate the exceptional advantages you can expect from this unique business service, we offer you AS A GIFT your choice of any one of the widely recommended volumes shown above.

If you find you're missing out on important business literature you'd really like to own—if today's high cost of reading curbs the growth of your business library—here's the solution to your problem. The McGraw-Hill Business Book Club was organized for businessmen like yourself. Its purpose is to provide you with a technical reading program covering four separate fields—Business Administration, Industrial Management, Finance and Accounting, and Advertising and Selling.

Because you may confine yourself to books in a specific area of interest to you, or keep informed on as many of these fields as you like, you will find this convenient, economical program of rare value.

How many of the books shown here do you wish you had immediately at hand? Reach for your pen right now and check off any two (or more) books you want. Be sure to indicate clearly the books you'd like us to send you FREE. Remember, by taking advantage of this offer now, you get two books for less than the regu-

lar price of one. For the Club Price of your first selection—and of all subsequent selections—represents a saving of approximately 15 per cent from publishers' prices.

**How the Club operates.** Every second month you receive free of charge the Club's **Business Book Bulletin** (issued six times a year). This gives complete advance notice of four main selections—one in each section of the Club—as well as of a number of alternate selections. If you wish the forthcoming selection in your section you do nothing—it will be sent to you. If you wish instead the selection from another section, or one of the alternate selections, or if you want no book for that two-month period, you notify the Club by returning the form and postage-paid envelope provided with each **Bulletin** for this purpose.

You need not accept a book every other month. The purchase of as few as **three** volumes in one year fulfills all your membership requirements. And if you choose, you may cancel your membership anytime, after accepting just three books.

So while this offer is in effect, put your application form in the mail **today!**

#### Mail Entire Coupon to:

**The McGraw-Hill Business Book Club**  
330 West 42nd Street, New York 36, N. Y., P. O. Box 97

Please enroll me as a member of the Business Book Club, in the following section:  BUSINESS ADMINISTRATION:  INDUSTRIAL MANAGEMENT:  FINANCE AND ACCOUNTING:  ADVERTISING AND SELLING. I wish to take as my first selection the book checked below:

**The Stock Market**, 3rd ed., by C. A. Dice and W. J. Elteman. Publisher's Edition, \$8.00. Club Price, \$6.85. Publisher's Edition, \$6.50. Club Price, \$5.50.

**Profit Management and Control** by Fred V. Gardner. Publisher's Edition, \$6.00. Club Price, \$5.25. Publisher's Edition, \$6.00. Club Price, \$5.15.

**Psychology in Management** by Harold Haire. Publisher's Edition, \$4.75. Club Price, \$4.00. Publisher's Edition, \$4.50. Club Price, \$4.00.

**Textbook of Salesmanship**, 8th ed., by F. A. Russell and F. H. Beach. Publisher's Edition, \$8.00. Club Price, \$5.10. Publisher's Edition, \$8.00. Club Price, \$5.10.

**Electronic Computers and Management Control** by George Kostmetzky and Paul Kircher. Publisher's Edition, \$5.00. Club Price, \$4.25. Publisher's Edition, \$5.00. Club Price, \$4.25.

**Motion and Time Study** by Gerald Nadler. Publisher's Edition, \$8.50. Club Price, \$6.40. Publisher's Edition, \$8.50. Club Price, \$6.40.

**Introduction to Investments**, 2nd ed., by John C. Clendenin. Publisher's Edition, \$6.00. Club Price, \$4.25. Publisher's Edition, \$6.00. Club Price, \$4.25.

**Check Lists of Sales-Promotion and Merchandising Essentials** compiled by the editors of Printers' Ink. Publisher's Edition, \$4.25. Club Price, \$4.25. Publisher's Edition, \$4.25. Club Price, \$4.25.

I am to receive **FREE** the book I have indicated along with my first selection checked above. You will bill me for my first selection only at the special club price, plus a few additional cents for postage and handling. (The Club assumes this charge on prepaid orders.) Forthcoming selections will be described to me in advance and I may decline any book. I need take only 3 selections or alternates in 12 months of membership. All further selections I choose will be at the member's special price. If not completely satisfied, I may return my first shipment within 10 days and my membership will be canceled.

Name ..... (Please Print)

Address .....

City ..... Zone ..... State .....

This offer is available only in the United States and its possessions. In Canada write McGraw-Hill Canada, 253 Spadina Road, Toronto 4, B.W. 15

# Mark of a New and Deadly Guided Missile



"Sidewinder" is the Navy's newest air-to-air guided missile. Flight tests have proved the missile to be as vicious as the desert rattle-snake for which it was named.

In brilliant performances against airborne targets at China Lake, "Sidewinder", Navy's new air-to-air guided missile, has captured the attention of the entire missile industry.

Simple in operation, small and light enough to be carried in quantity by single-seat Interceptors, "Sidewinder" can be fired singly or in salvos. It requires no complex launching system or special pilot training, and it maneuvers deftly at supersonic speeds. The missile displays extremely high single-shot accuracy—and even more important, *it can be launched*

*well beyond reach of the target aircraft's defense.*

"Sidewinder" was developed by the Naval Ordnance Test Station of the Navy Bureau of Ordnance at China Lake, California. Philco assisted NOTS in the research and development program, and performed the subsequent engineering required for manufacture of the missile. "Sidewinder" is *now in full production at the Philco Government and Industrial Division.*

Philco is proud to have made this important contribution to the development of more effective electronic systems for our national defense.

# PHILCO®

GOVERNMENT AND INDUSTRIAL DIVISION  
PHILADELPHIA 44, PENNSYLVANIA

# In Management

## Engineers' Trend to Unionize

### Refutes Idea That They're Pampered

Despite all the talk about engineers being a pampered lot, it seems the engineers themselves are far from satisfied. One indication is that, although they generally have been considered unorganized, better than 10% of the country's half-million engineers have joined a union. The areas of their discontent have been spotlighted by the National Industrial Conference Board in its just-released report, *Unionization Among American Engineers*:

**Salaries:** With higher wages and increased fringe benefits for hourly workers, the differential the salaried engineer used to enjoy has been reduced often to insignificance. Higher starting pay for newcomers and screaming help wanted ads from other companies add to the older engineer's feeling that he's not treated justly.

**Professional treatment:** Engineers want to be recognized as full-fledged members of the management team, to have their non-engineering assignments cut down, to be given credit in reports they help develop.

**Individual treatment:** The engineer feels that his personal needs and aptitudes are neglected in the maze of mass hiring and training, the lack of job titles, and the absence of channels through which to register his dissatisfactions.

According to James J. Bambrick, Jr., NICB labor relations specialist who prepared the report, most engineering locals began as professional associations, often founded by the top men in the department and with company blessings. Then, as the "rank and file" technicians took over, the metamorphosis into a union—making wage demands and calling strikes to obtain recognition of their professional status—occurred.

## Women Gain in Many Job Fields

### But Men Cling to a Few Strongholds

Women made up better than 30% of the U.S. labor force in 1956. And more than half of these 21-million women were married. Women are holding a greater variety of jobs, but still nearly half of them are in occupations in which at least three-quarters of the workers are women.

These facts lead the National Manpower Council to conclude, in an upcoming report, that "although there are few strongholds left that men hold exclusively, the occupational structure is still divided into jobs that are primarily 'men's' and others that are primarily 'women's'."

The increasing labor shortage, combined with the general social acceptance of working women, has resulted in women taking up tasks once reserved for men. Still, the study finds, these jobs are considered "men's work," and employers say they will return to men workers as soon as they are able to.

The public, too, tends to keep sex labels on jobs. During World War II, many department stores tried to staff big ticket appliance and furniture sections with female personnel, almost unanimously reported that the experiment did not work out.

Lest the men become too sure of their dominance, NMC points out that changes do occur. A natural feminine aptitude for repetitive work or work requiring manual dexterity, has turned "man's work" in such fields as records keeping and electronics assembly into "woman's work."

## Food Chain Turns to Mass Promotion

### To Develop Managerial Talent

To develop managerial talent located away from the home office, Kroger Co., giant food store chain, has decided that recognition is an important factor. In one fell swoop, it promoted its 24 branch managers to vice-presidents. Each heads a unit—including a distribution center and a ring of stores supplied by it—which is now called a "division" instead of a "branch."

Just the week before, four other Kroger executives who oversee the operations of the divisional men were upped to vice-presidents. Kroger hopes that their posts eventually will be filled by men among the two dozen just tapped.

The wholesale promotion is all part of Kroger's new emphasis on local autonomy, a logical development of its switch to fewer, bigger stores. In 1950, Kroger had 2,054 stores, did a \$860-million business; today it runs only 1,475 stores, expects to have chalked up \$1.45-billion in 1956.

Fifth biggest retailer in the country in 1955, Kroger hopes that last year pulled it ahead of J. C. Penney and into the No. 4 position. But it is still third in the food field, trailing A&P and Safeway.

## Management Briefs

American Management Assn.'s guide to management development courses is due out late this month. The 50-page book, which lists 60 programs and many special seminars in the U.S., Canada, and England, is the largest in this annual series. Previously distributed free, it will be sold this year for 75¢ (50¢ to members).

Another "50-50" company lists Time, Inc., and Crown Zellerbach Corp. as the partners (BW—Oct. 6 '56, p88). They're going halves in the St. Francisville Paper Co. (27 miles north of Baton Rouge), being set up to produce coated high-speed printing paper from Mississippi Delta white hardwoods. Estimated cost of the 78,000-ton mill, which will be staffed by Crown Zellerbach, is \$31-million. With output, CZ will enter Eastern markets.

Celanese Corp. of America (1955 sales: \$177.5-million) has created a new executive vice-presidency post, and picked 51-year-old Kenneth C. Loughlin—27 years with the company—to fill it. Loughlin has been vice-president and general manager of the textile division.

1956

—The Biggest Year Yet for

1. Total Dollar Volume hit a new peak... ...with key items ahead in Unit Volume, too 

PRODUCT	1950		1951		1952	
	NUMBER SOLD	RETAIL VALUE	NUMBER SOLD	RETAIL VALUE	NUMBER SOLD	RETAIL VALUE
Air Conditioners, Room.....	200,900	\$62,646,000	237,500	\$80,393,000	380,400	\$129,703,000
Cleaners, Vacuum:						
Floor Type.....	3,529,400	280,305,000	2,729,100	234,893,600	2,841,800	260,081,500
Hand Type.....	230,300	6,614,200	176,000	5,313,500	155,000	4,786,800
Dishwashers, Motor-Driven.....	230,000	66,700,000	260,000	78,000,000	175,000	52,500,000
Dryers, Clothes, Total.....	318,500	70,449,400	492,000	120,679,500	634,850	142,781,000
Electric.....	250,980	53,378,400	354,000	82,039,500	473,900	116,105,500
Gas.....	67,520	17,071,000	138,000	38,640,000	160,950	46,675,500
Lawn Mowers, Power.....	1,080,000	100,000,000	1,241,000	121,000,000	1,155,000	110,000,000
Phonographs—Record Players:						
Single Players.....						
Combination Units.....						
Record Player Attachments.....						
Radio:						
Home Radios.....	8,174,600	382,653,000	5,974,300	204,619,800	4,043,100	136,454,600
Portable Radios.....	1,674,700	50,994,600	1,332,990	41,322,700	1,719,900	59,336,500
Clock Radios.....			777,000	30,691,500	1,929,000	65,586,000
Washing Machines:						
Automatic & Semi-Automatic.....	1,646,380	423,119,700	1,589,400	445,667,800	1,684,100	471,076,400
Wrinker & Spinner.....	2,626,200	361,443,900	1,795,300	269,995,200	1,582,400	237,818,900
Ranges, Total.....	1,830,000	424,623,000	1,400,000	350,000,000	1,060,000	270,300,000
Standard.....	1,830,000	424,623,000	1,400,000	350,000,000	1,060,000	270,300,000
Built-in.....						
Refrigerators.....	6,200,000	1,602,266,000	4,075,000	1,120,625,000	3,570,000	1,017,450,000
Television, B. & W.....	7,463,800	2,235,408,000	5,384,800	1,572,362,000	6,096,300	1,719,156,600

## And '57 Promises Even Better

The automobile industry will remember 1956 as the year the customers sat on their hands. But the appliance maker will think of it fondly as the year that his love affair with the U.S. consumer really bloomed. The appliance and radio-TV industry wound up comfortably ahead of 1955 in dollar volume (charts). This was the second straight year for the industry to break its own record. In 1955—reversing a slight dip of the previous year—the industry pushed sales even higher than in 1950, the days of the Korean War scare buying. Electrical Merchandising, a McGraw-Hill publication, estimates in its annual survey of the industry that in

1956 manufacturers shipped \$8.3-billion worth of merchandise for a dollar volume gain of \$122-million over 1955.

Actually, the final figures at retail will be less impressive. The \$8.3-billion volume estimate is based on manufacturers' suggested retail prices, and does not take into consideration widespread discount selling.

• **A Look Ahead**—Even before the final score is chalked up, the industry as a whole is predicting big sales increases for the new year.

Herman F. Lehman, General Motors vice-president and general manager of its Frigidaire Div., says "Appliance industry sales in 1957 probably will be

between 5% and 10% over this year's level."

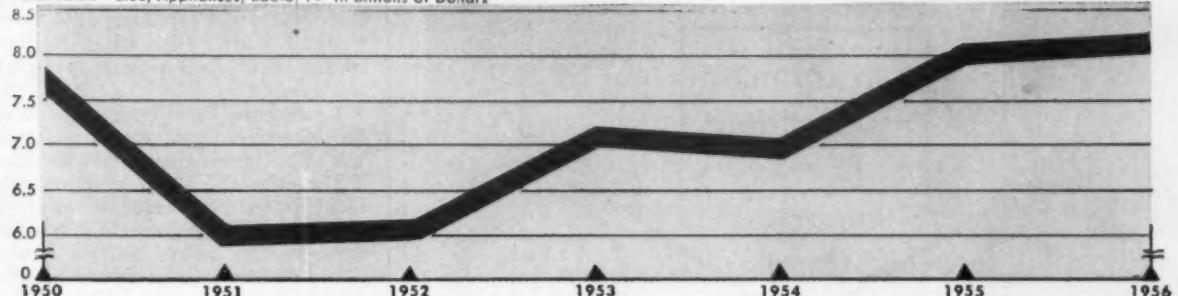
The annual 10-year forecast made by Hotpoint Co., a division of General Electric, sees gains this year for 11 major appliances (BW—Nov. 17 '56, p150).

The McGraw-Hill Economics Dept. forecasts that sales of appliances, radio, and TV will jump \$600-million to a total volume of nearly \$9-billion.

• **Pros and Cons**—This general optimism reflects two factors. First, consumer disposable income promises to keep rising, and probably will average something like \$300-billion over the year. Second, many consumers will complete

# Appliance Makers

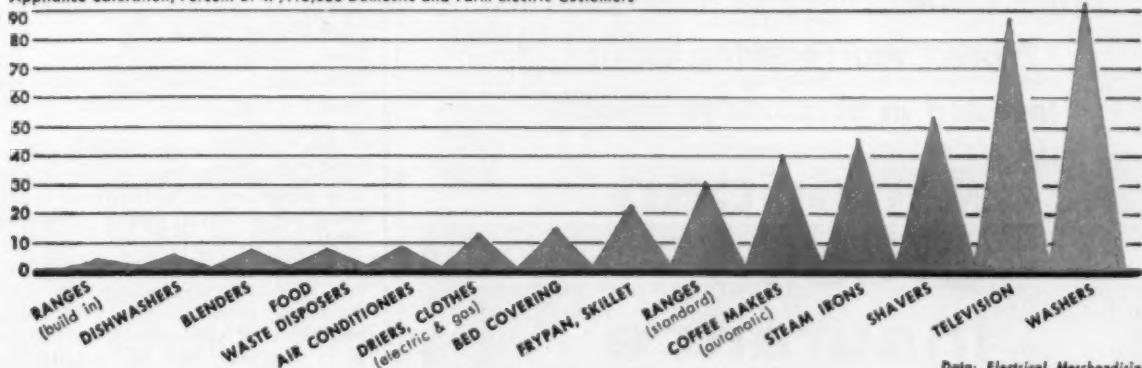
Total Retail Value, Appliances, Radio, TV in Billions of Dollars



1953		1954		1955		1956	
NUMBER SOLD	RETAIL VALUE						
... 1,044,700	\$349,514,000	... 1,246,000	\$423,640,000	... 1,270,000	\$406,400,000	... 1,765,000	\$485,375,000
... 2,777,700	263,121,700	... 2,658,000	254,459,900	... 3,270,400	285,702,000	... 3,725,000	304,630,000
... 173,200	5,212,100	... 133,600	4,145,600	... 106,700	3,384,500	... 75,000	2,400,000
... 180,000	54,000,000	... 215,000	64,500,000	... 295,000	90,270,000	... 400,000	116,000,000
... 736,700	179,847,000	... 940,900	215,630,500	... 1,396,600	309,050,000	... 1,660,000	369,780,000
... 568,500	134,342,200	... 697,700	153,040,500	... 1,027,600	216,752,000	... 1,190,000	252,280,000
... 168,200	45,504,800	... 243,200	62,590,000	... 369,000	92,298,000	... 470,000	117,500,000
... 1,275,000	144,542,000	... 1,750,000	157,500,000	... 2,750,000	236,500,000	... 3,200,000	252,800,000
.....	.....	.....	.....	... 2,233,700	154,125,000	... 3,600,000	248,400,000
.....	.....	.....	.....	... 509,000	101,800,000	... 595,000	117,810,000
.....	.....	.....	.....	... 380,000	13,300,000	... 270,000	9,450,000
... 4,403,000	138,694,500	... 3,067,600	88,193,500	... 3,393,800	97,575,000	... 3,800,000	95,000,000
... 1,741,600	60,712,000	... 1,333,500	42,472,000	... 2,027,500	70,861,000	... 2,900,000	113,100,000
... 2,041,100	69,397,400	... 1,874,900	58,121,900	... 2,243,700	76,173,600	... 2,500,000	85,000,000
... 2,070,800	577,401,100	... 2,401,000	653,816,300	... 3,123,000	845,407,000	... 3,460,000	951,500,000
... 1,521,400	228,018,200	... 1,209,400	179,741,000	... 1,268,000	187,030,000	... 1,253,000	189,203,000
... 1,250,000	318,750,000	... 1,350,000	353,700,000	... 1,600,000	423,800,000	... 1,585,000	412,645,000
... 1,250,000	318,750,000	... 1,250,000	325,000,000	... 1,400,000	366,800,000	... 1,200,000	306,000,000
.....	.....	... 100,000	28,900,000	... 200,000	57,000,000	... 385,000	106,645,000
... 3,650,000	1,076,750,000	... 3,600,000	1,095,865,000	... 4,200,000	1,323,000,000	... 3,700,000	1,202,500,000
... 7,215,800	2,020,424,000	... 7,346,700	1,689,741,000	... 7,756,500	1,745,212,000	... 7,200,000	1,368,000,000

## 2. Market Saturation Index still shows big potential in some lines

Appliance Saturation, Percent of 47,415,000 Domestic and Farm Electric Customers



Data: Electrical Merchandising.



**Don't end protection when  
the risk of credit loss begins**

You pass title of your working capital when merchandise is shipped—you create an account receivable. You're more certain of the end result—PROFIT—when you protect accounts receivable with Credit Insurance. That's why an increasing number of executives have decided that NO cycle of protection is complete unless capital invested in accounts receivable is insured by ACI. To learn more about Credit Insurance, call our office in your city, or write AMERICAN CREDIT INDEMNITY COMPANY of New York, Dept. 42, Commercial Credit Building, Baltimore 2, Maryland.

**Liquidity of capital is the  
prime responsibility of management.**

**Protect your working capital  
invested in accounts receivable**

**with American  
Credit  
Insurance**

payments this year for durables bought in 1955. This will free some spending power they can use to carry new commitments.

There are negative factors, however. Appliance prices will be higher this year. This rather than a gain in unit sales will account for some of the increase in dollar volume. And housing completions will run about 10% lower this year than in 1956, which means a smaller market for appliances as original equipment.

- **Leading the Pack**—Four segments of the industry account for most of last year's \$8.3-billion volume. At the head is the radio-TV business, which sold about 16.4-million units for value of \$1.6-billion. The freezer-refrigerator and home laundry groups tied for second place. Freezer and refrigerator makers shipped 4.6-million units with a value of about \$1.5-billion. And the home laundry manufacturers sold 6.4-million units, valued at \$1.5-billion.

The fourth segment, the electric housewares or small appliances, account for about \$1.2-billion of sales. Housewares include a number of relatively new appliances, which are responsible for most of the gains of this group. Sales of electric skillets, for example, jumped from 1.1-million units in 1954 to 6.3-million last year. The steam iron, too, is gaining. Last year, 6.1-million were sold, compared with 3.9-million in 1954. In addition, other small appliances such as shavers, portable mixers, bed coverings, and blenders achieved record sales. Most industry spokesmen feel that the market potential for these products is still relatively untapped.

Some big ticket items that also have a low market saturation set new sales records during the year. These include air conditioners, which sold about 31% more units than in 1955; dishwashers, up 36%; food waste disposers, up 13%; and driers, up 18%. Many in the industry expect this year's biggest gains in these items.

- **Hurdles**—The over-all gain in dollar volume doesn't erase the fact that the industry faced a lot of problems during the year.

There was a widespread feeling among manufacturers and retailers that profits weren't what they should have been. Rising labor and material costs plus intense competition with low-margin selling, made it difficult to keep earnings up.

The year saw some manufacturers—CBS-Columbia for one—go out of business altogether, while the trend toward fewer, bigger makers gained momentum (BW-Jun.23'56,p173).

- **TV Squeeze**—The TV receiver business especially was plagued by these pressures. After a record 1955, black and white set sales were down 500,000 units this year, and the industry en-

tered 1957 with its heaviest inventories in history. General Electric Co. is laying off 1,200 TV production workers indefinitely.

To make matters even worse, more of the sets sold were lower priced portables. About 1.5-million portables were produced, compared with only 250,000 in 1955. This tended to depress the prices of larger models, and accounts for part of the \$300-million decline in TV sales. Recently, Radio Corp. of America announced that despite sales exceeding \$1-billion—the highest in its history—it's net profits were off about \$74-million. Chmn. David Sarnoff blames higher costs and cut-rate selling.

One product that might have offset some of the loss—color TV sets—failed to materialize substantially during the year. About 150,000 color receivers were sold. RCA, color TV's big champion, admits it is disappointed with results last year, but hopes to sell 250,000 sets this year. RCA last year lost almost \$7-million after taxes on its color TV activities.

## MARKETING BRIEFS

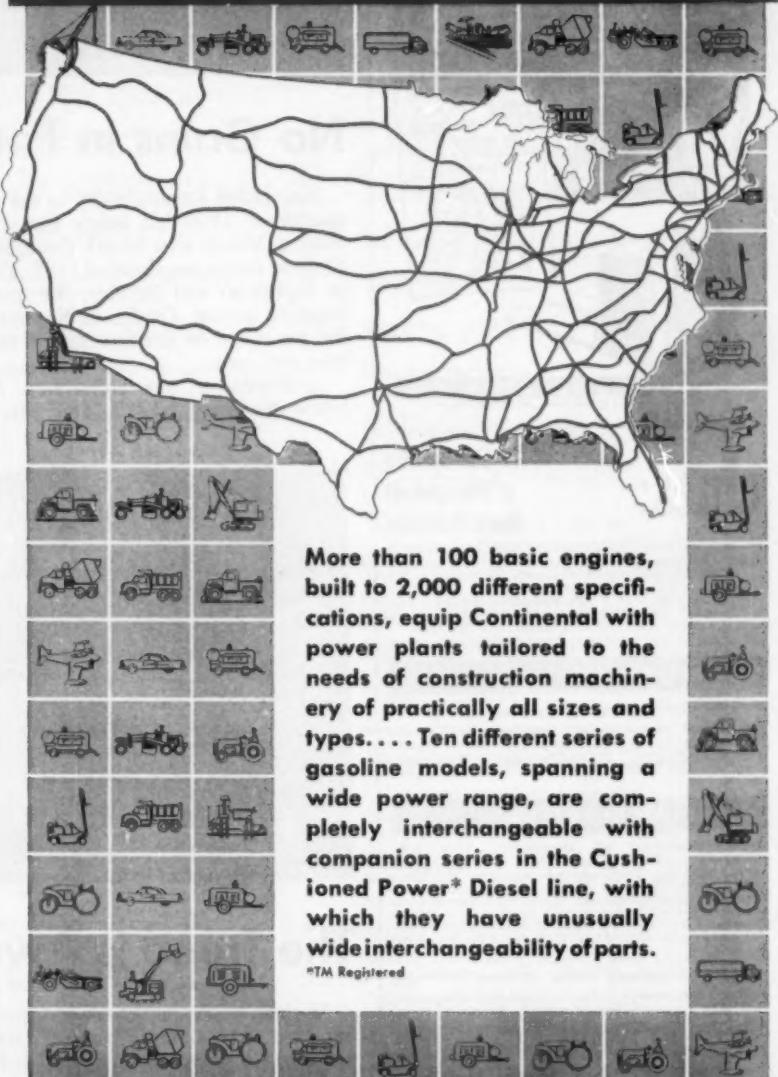
A special single-issue publication, Hungary's Fight for Freedom, was Life magazine's contribution to Hungarian relief. Profits from sale of the issue went to the International Rescue Committee, Inc. Grand Union, one of the stores that sold the issue, also contributed its profits to the committee.

Spot TV advertising claimed \$289.6-million in revenue out of a \$643.6-million television total for the first nine months of 1956, according to Television Bureau of Advertising. That's based on one-time gross rates for time.

Food chain operators, with a 7.4% sales increase in 1956, expect an average rise of 6.7% in 1957, according to John A. Logan, president, National Assn. of Food Chains. Association members plan to open more than 2,000 new supers this year—though tight money may slow down shopping centers and food chain growth. Demand for convenience foods helped push the total of new foods to 6,000 during 1956.

Town Journal, an outgrowth of the old Pathfinder, dies with the February issue. The publisher, Farm Journal, Inc., had hoped to fatten it up with some revenues from the old Country Gentleman, bought from Curtis a year ago (BW-Jun.11'55,p34). Despite ad revenues of \$3-million and a circulation of over 2-million, the high investment costs of making a consumer publication profitable looked too big to swing.

# MORE Power... BETTER Power... for Every Phase of the BIG ROAD PROGRAM!



More than 100 basic engines, built to 2,000 different specifications, equip Continental with power plants tailored to the needs of construction machinery of practically all sizes and types.... Ten different series of gasoline models, spanning a wide power range, are completely interchangeable with companion series in the Cushioned Power\* Diesel line, with which they have unusually wide interchangeability of parts.

\*TM Registered

**Continental Motors Corporation**

MUSKEGON • MICHIGAN

6 EAST 45TH ST., NEW YORK 17, NEW YORK • 3817 S. SANTA FE AVE., LOS ANGELES 54, CALIF.  
6216 CEDAR SPRINGS ROAD, DALLAS 9, TEXAS • 1752 OAKLEIGH DR., EAST POINT (ATLANTA) GA.

**REVOLATOR  
GO-GETTER**  
The MOST COPIED  
LIFT TRUCK  
On The Market

EASIEST  
WALKIE-TRUCK  
TO OPERATE AND  
MAINTAIN EVER!

FINGER-TIP CONTROLS, INCLUDING DYNAMIC BRAKE TO ELIMINATE "BLUGGING" THE MOTOR GOING DOWN RAMPS, AND "AUTOMATIC" COAST-DE-ACCELERATION ADJUSTS TO UNEVEN FLOORS. STEERS EASILY, AND WORKS IN LESS SPACE BECAUSE OF THE DUAL WHEELS & DIFFERENTIAL DRIVE!

HOW ABOUT MAINTENANCE? SLAP THE LATCH AND LIFT OFF THE COVERS - YOU DON'T EVEN TAKE THE MOTOR OUT TO GET AT THE BRUSHES, AND THE DISK BRAKE HAS A SIMPLE SCREW ADJUSTMENT

WRITE FOR OUR  
**FREE TRUCK INDEX**  
OF GO-GETTER ELECTRIC AND RED GIANT  
HAND LIFT TRUCKS

REVOLATOR CO.  
1711 TOWNE AVE., NORTH BERGEN, N.J.

## clues:

### To The Solution of Management Men's Problems

REPLIES (Box No.): Address to office nearest you  
c/o This publication Classified Adv. Div.  
NEW YORK: P. O. Box 12 (26)  
CHICAGO: 580 N. Michigan Ave. (11)  
SAN FRANCISCO: 68 Post St. (1)  
LOS ANGELES: 1135 W. 6th St. (17)

### EMPLOYMENT

#### Selling Opportunity Wanted

Established manufacturer's representative would like additional Diesel Equipment Line: Washington, Oregon, Idaho-Montana, Wyoming, Denver and Salt Lake. RA-3846. Business Week.

### SPECIAL SERVICES

Need Translation? All Languages. Your Ads, manuals, catalogs, film scripts, house organs, sales letters. Turn-around service on business correspondence, typed on your own letterhead. Technical and industrial material a specialty backed by years of experience. Write Overseas Business Services, McGraw-Hill International Corp., 330 West 42nd St., New York 18, N. Y.

#### Registered Patent Attorney

Patent Information Book without obligation. G. Miller 17-BW1, Warner Bldg., Wash. 4, D. C.

### BUSINESS OPPORTUNITIES

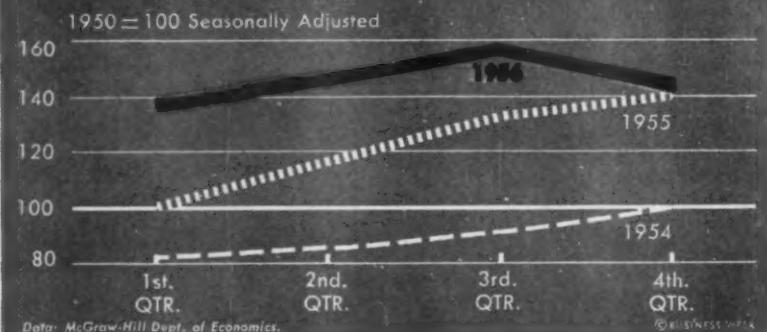
Free Catalog Hundreds of Bargains in business, farms, and income property for sale throughout U. S. Deal direct with owners. Write: U. I. Buyers Digest, 1808 Hillhurst Ave., Dept. BW6, Los Angeles 27, Calif.

### PLANTS—PROPERTIES

Florida 2800 Acres, 2 miles from new Glenn L. Martin Plant in Orlando. Adjacent to new planned Orlando Jet Airport, \$400 per Acre. 20% Down, 10 Yrs. Excellent for Syndication. For Brochure Write P. O. Box 1241, Miami Beach 29, Fla.

## CHARTS OF THE WEEK

### Machinery New Orders



© BUSINESS WEEK

## No Gains in Fourth Quarter

New orders for machinery in the last quarter of 1956 fell below the third quarter. Month after month throughout the year, orders ran ahead of 1955. Then in September and October, the spread began to narrow. Finally, in November, the gap closed for the first time in more than two years.

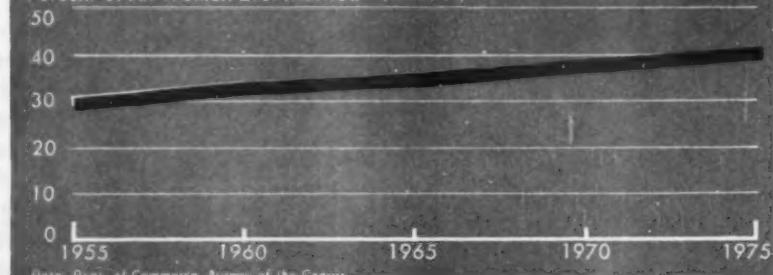
In November, new orders were 2% below November, 1955. This year-to-

year decline occurred despite a 3% rise in orders from October to November, after seasonal adjustment.

Most machinery manufacturers co-operating in the monthly new orders index expect further declines in orders during the first quarter of this year. However, they anticipate a moderate pickup for the second and third quarters as higher prices go into effect.

### Married Women in the Labor Force

Percent of All Women Ever Married (estimated)



## The Trend Is Away From the Kitchen

Women's role in the labor force is expected to continue to burgeon during the next 20 years, with married women in particular assuming more importance. The Bureau of the Census estimates that the 31% of all married, widowed, and divorced women working in 1955 will rise to 40.7% in 1975.

Married women—exclusive of widows and divorcees—may increase their participation rates from 51.8% in 1955 to

57.4% in 1975. And the number of working mothers is expected to rise.

The outstanding fact in any projection of the total labor force is that the number of working women over age 45 is on the increase. In 1955, they made up 10.7% of the total labor force; by 1957 they will account for between 13% and 15.5%. Men, on the other hand, are expected to drop four of five percentage points.

## ADVERTISERS IN THIS ISSUE

Business Week, January 5, 1957

ALLEHENY LUDLUM STEEL CORP.....	90	CAR WOOD INDUSTRIES.....	58	ST. REGIS PAPER CO.....	100-107
Agency—W. B. Walker Adv., Inc.		Agency—Meldrum & Fowsmith, Inc.		Agency—Cunningham & Walsh, Inc.	
R. C. ALLEN BUSINESS MACHINES, INC. ....	56	B. F. GOODRICH INDUSTRIAL PRODUCTS CO. ....	3	SEABOARD & WESTERN AIRLINES, INC. ....	94
Agency—Wenley Aves & Assoc.		Agency—The Griswold-Eshleman Co.		Agency—Hazard Adv. Co., Inc.	
ALUMINUM CO. OF AMERICA.....	81	GOVERNMENT OF NOVA SCOTIA.....	78	SINCLAIR OIL CORP.....	33
Agency—Fuller & Smith & Ross, Inc.		Agency—Stevenson & Scott Ltd.		Agency—Doremus & Co.	
AMERICAN APPRAISAL CO. ....	114	GRAYBAR ELECTRIC CO. ....	101	A. G. SMITH CORP.....	6-7
Agency—The Buchen Co.		Agency—G. M. Basford Co.		Agency—Klae-Van Pietersom-Dunlap, Inc.	
AMERICAN CREDIT INDEMNITY CO. ....	124	GREATER MIAMI INDUSTRIAL DEV. BOARD.....	104	SNAP-ON TOOL CORP.....	72
Agency—VanSant, Dugdale & Co., Inc.		Agency—Gottschaldt & Assoc., Inc.		Agency—Bert H. Gittins Adv., Inc.	
AMP INC. ....	74	GREAT NORTHERN RAILWAY.....	10	SPERRY GYROSCOPE CO., DIV. OF SPERRY RAND CORP.....	44-45
Agency—M. Russell Berger, Inc.		Agency—John W. Forney Inc.		Agency—Roch, Yates & Matteson, Inc.	
ARABOL MFG. CO. ....	53	ILLINOIS TOOL WORKS.....	4th Cover	STANDARD PRESSED STEEL CO. ....	96
Agency—H. T. O'Connell Co.		Agency—Walde & Briggs, Inc.		Agency—Gray & Rogers	
THE BANK OF MONTREAL.....	194	JOHNSON & HIGGINS.....	84	STATE OF RHODE ISLAND (R. I. DEV. COUNCIL).....	102
Agency—Doremus & Co.		Agency—Doremus & Co.		Agency—Bo Bernstein & Co., Inc.	
BELLows CO. ....	55	JONES & LAMSON MACHINE CO. ....	38	THE TEXAS CO. ....	18
Agency—Ralph Gross Adv., Inc.		Agency—Henry A. Loudon Adv., Inc.		Agency—G. M. Basford Co.	
BEMIS BIRD BAG CO. ....	82	KIDDER, PEABODY & CO. ....	83	TOLEDO SCALE CO. ....	54
Agency—Gardner Adv. Co.		Agency—Doremus & Co.		Agency—Reischert, Inc.	
BETHLEHEM STEEL CO. ....	77	SAMUEL N. LANGSTON CO. ....	105	THE TORRINGTON CO. ....	40
Agency—Jones & Brakeley, Inc.		Agency—Gray & Rogers		Agency—Hazard Adv. Co.	
BITUMINOUS COAL INSTITUTE.....	15	LILY-TULIP CUP CORP. ....	3rd Cover	TRANSAMERICAN FREIGHT LINES, INC. ....	72
Agency—VanSant, Dugdale & Co., Inc.		Agency—Grey Adv. Agency, Inc.		Agency—Roy C. Hayes	
BRAND NAMES FOUNDATION.....	108	McGRAW-HILL BOOK CO., INC. ....	119	TWIN DISC CLUTCH CO. ....	51
		Agency—Young & Rubicam, Inc.		Agency—Curtiss, Quinlan, Keene & Pick, Inc.	
BREUER ELECTRIC MFG. CO. ....	62	METROPOLITAN LIFE INS. CO. ....	21	U. S. INDUSTRIES.....	118
Agency—Grimm & Cralake		Agency—Graceman Adv., Inc.		Agency—Erwin, Wasey & Co., Inc.	
BUFFALO FORGE CO. ....	37	MILFORD RIVET & MACHINE CO. ....	118	UNITED STATES RUBBER CO. ....	111
Agency—Mervin F. Hau Adv. Agency, Inc.		Agency—Graceman Adv., Inc.		Agency—Fletcher D. Richards, Inc.	
BULLDOG ELECTRIC PRODUCTS CO. ....	8-9	MUELLER CO. ....	76	THE UPSON CO. ....	49
Agency—MacManus, John & Adams, Inc.		Agency—Ross Adv.		Agency—Kimmer, Keller & Calvert, Inc.	
BUSINESS WEEK .....	24	NATIONAL CASH REGISTER CO. ....	2nd Cover	VERTOL AIRCRAFT CORP. ....	66
		Agency—McGraw-Kirkman, Inc.		Agency—Gaynor, Colman, Prentiss & Varley, Inc.	
BUTLER MFG. CO. ....	99	NICKEL PLATE ROAD.....	108	VICTOR CHEMICAL WORKS.....	63-66
Agency—Aubrey, Finlay, Marley & Hodgson, Inc.		Agency—Fuller & Smith & Ross, Inc.		Agency—The Buchen Co.	
CHICAGO HARDWARE FOUNDRY CO. ....	182	OHIO CHAIN CO. ....	102	WAGNER ELECTRIC CORP. ....	57
Agency—Wilson Adv. Service		Agency—H. J. McCallister Co.		Agency—Arthur R. Moses, Inc.	
J. L. CLARK MFG. CO. ....	118	THE OSBORN MFG. CO. ....	14	WELLINGTON SEARS CO. ....	43
Agency—Cummings, Brand & McPherson Adv.		Agency—The Griswold-Eshleman Co.		Agency—Ellington & Co., Inc.	
CLUES (CLASSIFIED ADVERTISING) .....	128	PACIFIC GAS & ELECTRIC CO. ....	112	WESTINGHOUSE ELECTRIC CORP. ....	22-23
		Agency—Batten, Barton, Durstine & Osborn, Inc.		Agency—Fuller & Smith & Ross, Inc.	
COMMERCIAL CREDIT CO. ....	80	PARADE PUBLICATION, INC. ....	4		
Agency—VanSant, Dugdale & Co., Inc.		Agency—Calkins & Holden, Inc.			
CONTINENTAL MOTORS CORP. ....	125	PARSONS PAPER CO. ....	67		
Agency—The Hopkins Agency		Agency—Gibney & Barreca			
COPPER & BRASS RESEARCH ASSN. ....	81	PHILCO CORP. (GOVT & MILITARY) ....	126		
Agency—J. M. Hickerson Inc.		Agency—Hutchins Adv. Co., Inc.			
DANA CORP. ....	71	PRATT & WHITNEY CO., INC. ....	52		
Agency—Clifford A. Kroening, Inc.		Agency—Hugh H. Graham & Assoc., Inc.			
DOW CORNING CORP. ....	86	RAILWAY EXPRESS AGENCY.....	17		
Agency—Church & Gieseke Adv., Inc.		Agency—Benton & Bowles, Inc.			
DOW CORNING CORP. ....	85	RAYBESTOS-MANHATTAN, INC. ....	92		
Agency—Kreicker & Meloan, Inc.		Agency—Gray & Rogers			
EDMONT MFG. CO. ....	100	READING RAILROAD.....	80		
Agency—Maurice Mullay, Inc.		Agency—Richard A. Foley Adv. Agency, Inc.			
FAIRCHILD ENGINE & AIRPLANE CORP. ....	18	REMINGTON RAND, DIV. OF SPERRY RAND CORP. ....	11		
Agency—Gaynor, Colman, Prentiss & Varley, Inc.		Agency—Paris & Pearl, Inc.			
FIRESTONE TIRE & RUBBER CO. ....	12-13	REVOLATOR CO. ....	128		
Agency—Campbell-Krauld Co.		Agency—Fredericks & Co., Inc.			
FORD INSTRUMENT CO., DIV. OF SPERRY RAND CORP. ....	78	ROYAL-McBEE CORP. ....	117		
Agency—G. M. Basford Co.		Agency—C. J. La Roche & Co., Inc.			
GAIRDNER & CO., LTD. ....	84				
Agency—Thornton Purkis Ltd.					

### ADVERTISING SALES STAFF

Chicago 11... John P. Taylor, Midwestern Advertising Sales Manager, Mohawk 4-5800  
 Atlanta 3... W. D. Lanier, 801 Rhodes-Haverty Bldg., Walnut 5778  
 Boston 16... Kent Sanger, 250 Park Square Bldg., Tremont 2-1500  
 Chicago 11... John F. Boomer, Herbert M. Higgins, James E. McPhane, Robert Sidur, 520 N. Michigan Ave., Mohawk 4-5800  
 Cleveland 15... William C. Bradford, John G. Cashin, 1515 Hanna Bldg., Superior 1-7000  
 Dallas 11... D. C. Billian, Gordon L. Jones, Adolphus Tower Bldg., Main & Akard Sts., Prospect 7-5064  
 Detroit 26... Richard J. McGurk, C. C. Randolph, 856 Penobscot Bldg., Woodward 2-1798  
 Los Angeles 17... Alfred L. Blessing, 1125 West Sixth St., Madison 2-5235  
 New York 36... Harold Choate, John H. Glover, G. Robert Gravick, Jack F. Juraschek, A. T. Ostie, John H. Stevenson, 330 W. 43rd St., Longacre 4-3000  
 Philadelphia 3... R. Bernard Alexander, David S. Conner, T. R. Robertson, Architects Bldg., 17th & Arch Sts., Rittenhouse 2-8100  
 Pittsburgh 22... R. H. Thomas, 919 Oliver Bldg., Atlantic 1-4707  
 St. Louis 22... James H. Cash, Continental Bldg., 3615 Olive St., Jefferson 5-4867  
 San Francisco 4... John W. Otterson, 68 Post St., Douglas 2-1200  
 England... Herbert Lasier, McGraw-Hill Co., Ltd., 95 Farringdon St., London, E. C. 4

## Steel Expansion: It's Time to Face Facts

Defense Mobilization Director Arthur S. Flemming last week rejected the steel industry's application for fast tax write-offs on \$2.3-billion of projected plant expansion. Flemming said that he acted with the advice of the Defense Mobilization Board, which includes most of the members of the Cabinet, and so his decision can be taken to represent the official stand of the Administration on the question of accelerated depreciation as a stimulus to industrial expansion.

Obviously, it was a tough decision to make—one that called for a high order of honesty, courage, and wisdom. The honesty and courage of Flemming's stand are plain. The wisdom is not self-evident.

In acting on the steel industry's request, the Administration found itself facing not a single clear-cut issue, but a whole basketful of problems.

First was the legal issue—whether or not the law that authorizes accelerated depreciation for "defense supporting" projects can properly be extended to cover expansions of basic capacity not directly related to possible military needs.

Back of that was a fundamental conflict among the Administration's advisers over the desirability of encouraging more expansion at this time. When industry's capital spending program already is straining the economy, should we be encouraging additional expansion projects? Will the inflationary effects of the immediate spending be offset in the long run by the increases in the supply of goods that the expansion will make possible?

And even if these questions can be answered in favor of expansion, there are many in the Administration who dislike the idea of special action of any sort by the federal government. To them, the encouragement of expansion by fast write-offs looks alarmingly like a managed economy. Even if new plant is deemed desirable, they are unwilling to see Washington take any special steps to promote it.

Without knowing the details of all the debates that preceded the final announcement, it is impossible to determine just how all these considerations weighed in the Administration's decision. The only reason that Flemming stated was the purely legalistic one—that it had not been shown that additional steel capacity was essential to meet military, atomic energy, defense-supporting, and "rock-bottom" civilian requirements.

It will be too bad if the debate ends here, because it is important that the other and larger issues involved should be discussed upon their merits. If Flemming's decision means that the steel industry will now have to choose between abandoning its expansion plans and raising its prices enough to finance new capacity without the aid of accelerated depreciation, that is something the country should know and understand.

Steel industry executives are no more devoted to the idea of a managed economy than the Administration is. But the economic forces that prompted the industry to file for special depreciation privileges are not going to cease working just because Washington has handed down its ruling.

The fact is that the steel industry, and a substantial part of other U. S. industry, finds itself trapped (BW—Oct. 13 '56, p86). It cannot maintain its present price structure and generate a large enough cash flow to finance the expansion that it considers essential. But if it raises prices to bring in more revenue, the tax collector will take 52% of the extra income. Thus, prices will have to go up twice as much as the cost of the new plant would require by itself. Even if the market would take that kind of price hike—and the chances are that right now it would—the inflationary kick to the economy would probably make a joke of the "honest dollar" policy that the Administration has followed so devotedly.

The plight of the steel industry simply underlines that fact that our entire tax system needs overhauling. The present structure of rates and rules is not consistent with economic growth and expansion. It is, in fact, a dangerous barrier to expansion.

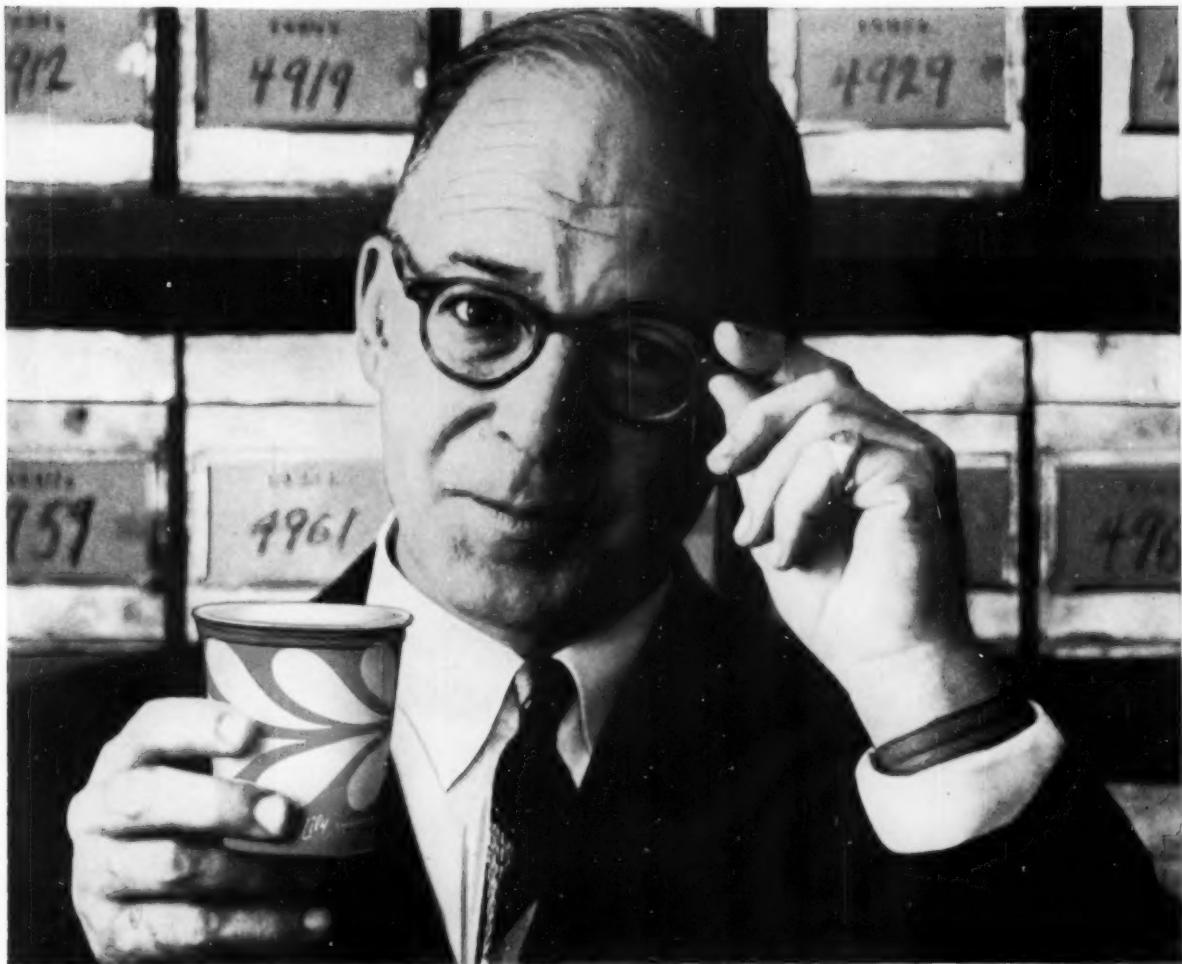
If the Administration's decision in the steel case had been coupled with a promise to start an over-haul of the tax laws at the next session of Congress, few could doubt its wisdom. But as it is, the decision faces only half the facts in the case. The Administration still has to deal with the other half. And right now is none too soon to start.

### The Only Answer

There is no occasion for surprise, or for anything but a sense of satisfaction, in Pres. Eisenhower's decision to ask Congress for stand-by authority to defend the Middle East. This momentous act of statesmanship simply underlines the equally momentous "keep out" warning that Eisenhower issued when Moscow was threatening to send "volunteers" to the Middle East.

The President is entitled to the backing of Congress and of the entire nation in his request for authority to use political, economic, and—if necessary—military measures to oppose Soviet expansion in the Middle East. This way it should be possible to stabilize the area and to prevent it from becoming the tinderbox of World War III.

In becoming guardian of the peace in the Middle East, the U. S. clearly will add substantially to its world responsibilities, and to the cost thereof. That is the price of world leadership—and of the national desire, shared by every American from the President on down, that this country should use its power to bring peace with justice to the world.



In on-the-spot comparison test:

## TEA EXPERT PROVES NEW LILY\* CHINA-COTE CUP SAVES THE FLAVOR OF HOT TEA SERVED IN YOUR PLANT!

Meet Robert Compton, Chairman of the Tea Association's Brewing Committee, and President of the tea importing firm, Bingham & Company, shown testing delicately brewed tea in the Lily\* China-Cote Cup. His reaction: "Hot tea at its best! This remarkable cup brings out the full tea flavor more rapidly — preserves it longer." Conclusive proof that the China-Cote Cup . . .

*Saves the flavor!* Resists penetration of hot liquids into the paper. Tea and coffee taste as they should!

*Saves the heat!* Keeps hot liquids 10° hotter in a ten-minute period.

*Saves the shape!* Remains sturdy in the



Specify *Lily China-Cote*, the cup that saves the flavor.

hand, even under rough and rugged use.

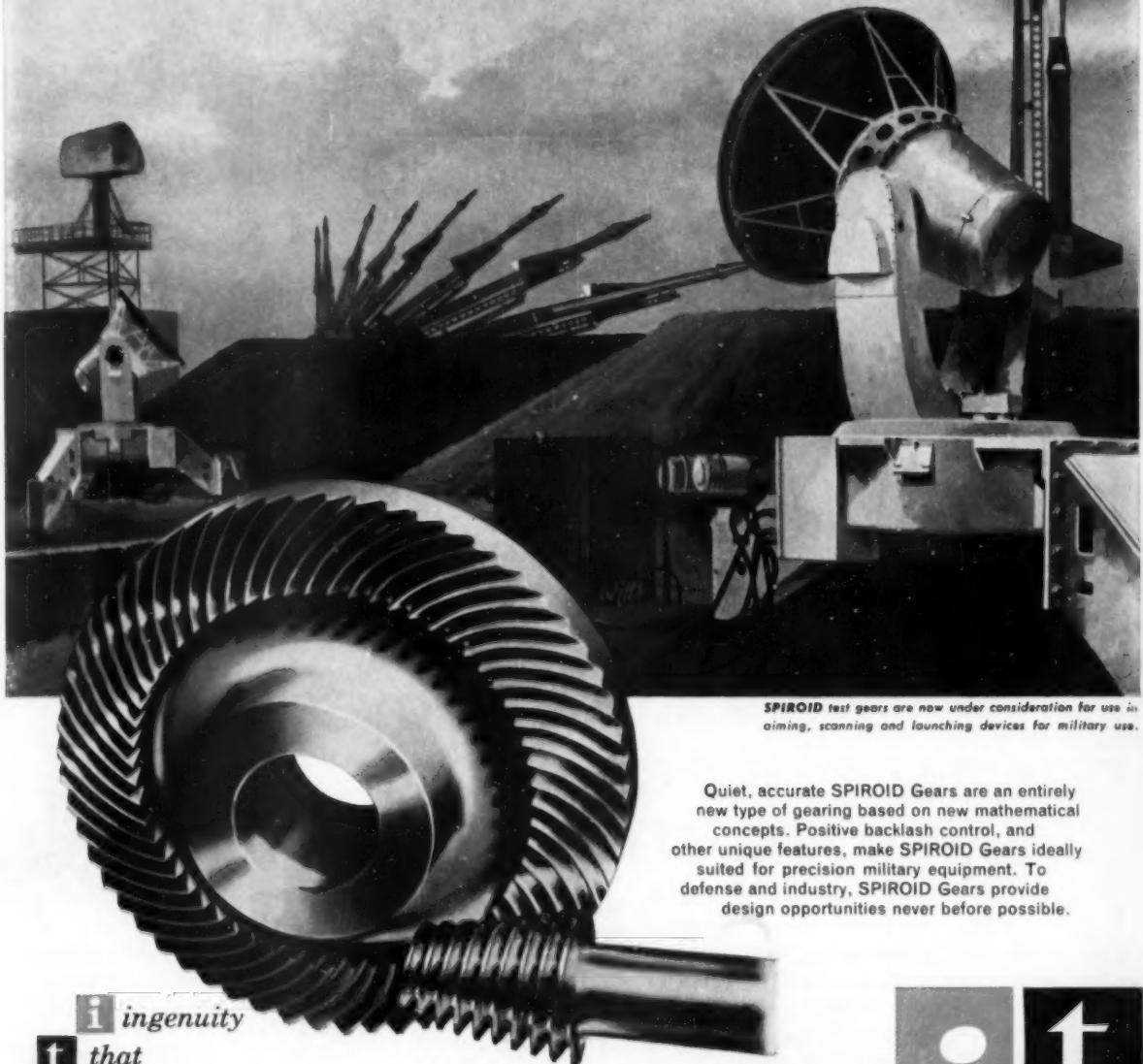
China-Cote's research and development activities took ten years. The result is a special plastic inner coating — similar to real china. No wonder the Lily China-Cote Cup is the most wanted cup wherever the enjoyment of hot drinks counts. No wonder more and more plant executives are asking their in-plant feeders and vending operators, or writing us direct, for full China-Cote details. Indeed, many are making a *personal* comparison test. Interested? Just drop us a note on your letterhead for test samples.

*Lily-Tulip Cup Corporation, 122 East 42nd Street, New York 17, N. Y.*

ST. M. REG. U. S. PAT. OFF.

## New Spiroid® Gears

### More Power... Less Space



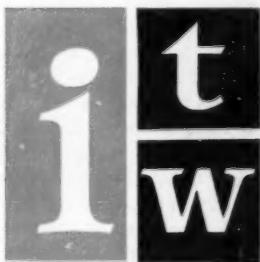
SPIROID test gears are now under consideration for use in aiming, scanning and launching devices for military use.

Quiet, accurate SPIROID Gears are an entirely new type of gearing based on new mathematical concepts. Positive backlash control, and other unique features, make SPIROID Gears ideally suited for precision military equipment. To defense and industry, SPIROID Gears provide design opportunities never before possible.

**i** ingenuity  
**t** hat  
**W** works

#### DIVISIONS OF ILLINOIS TOOL WORKS:

SPIROID DIVISION, Modern Gears • TOOL DIVISION, Metal Cutting Tools • MACHINE AND INSTRUMENT DIVISION, Measuring Machines • SHAKEPROOF DIVISION, Fastening Headquarters • FASTEX DIVISION, Plastic and Metal Components • LICON DIVISION, Precision Electrical Switches



**ILLINOIS TOOL WORKS**

CHICAGO • ELGIN • DES PLAINES • TORONTO